

PARENTAL BONDING, ADULT ROMANTIC ATTACHMENT, FEAR OF INTIMACY,  
AND COGNITIVE DISTORTIONS AMONG CHILD MOLESTERS

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Dissertation Prepared for the Degree of  
DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

August 2007

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Wood, Eric. Parental bonding, adult romantic attachment, fear of intimacy, and cognitive distortions among child molesters. Doctor of Philosophy (Psychology), August 2007, 127 pp., 18 figures, 9 tables, references, 231 titles.

Path models assessed different models of influential order for parental bonding; adult romantic attachment; views of self, world/others, and the future; the fear of intimacy; and cognitive distortions among child molesters and non-offending controls. Child molesters receiving sex offender treatment reported more problematic parental bonding; insecure adult romantic attachment; negative views of self, world/others, and the future; a greater fear of intimacy, and more cognitive distortions regarding adult-child sex. The predicted path models were not established as the models did not adequately fit the data. However, post hoc logistic regressions indicated that Maternal Optimal Bonding, Preoccupied attachment, and cognitive distortions regarding adult-child sex significantly predicted child molester status. Overall, the findings provide support for a multi-factorial model of child molestation derived from attachment theory. Limitations of the study and areas for future research are also discussed.

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## CHAPTER I

### LITERATURE REVIEW

Sexual crimes against children represent a serious problem in North America and the number of reports for these crimes is increasing (Bumby & Hansen, 1997; Marshall, Anderson, & Fernandez, 1999; Nezu et al., 2005). The United States Department of Health and Human Services (2003) reported that approximately 100,000 cases of child sexual abuse are substantiated every year by various child protective services agencies. However, this report only includes reported cases and does not reflect the actual number of child molesters, some of whom have engaged in multiple crimes against children (Craissati, 2004). Other surveys estimated that up to 15% of girls and 7% percent of boys are sexually abused by age 18; however, these surveys might also underestimate the problem (Craissati, 2004; Witt, Rambus, & Bosley, 1996). The inherent difficulties in estimating the extent of child sexual abuse may mean the actual prevalence of this problem will never be known (Kirsch & Becker; 2006; Witt, Rambus, & Bosley, 1996).

There is evidence suggesting much of the apparent increase in the reports of child sexual abuse is due to public awareness as opposed to an actual increase in the rates of these crimes (Putnam, 2003). As a result, some researchers focus on assessing the recidivism rates among sex offenders. According to the Center of Sex Offender Management (CSOM, 2001), recidivism studies of sex offenders almost exclusively focus on institutional/prison populations while giving little attention to offenders placed on probation. For example, Prentky et al. (1997) conducted a longitudinal study with sex offenders released from prison and found that after five years, 19% of child molesters in their sample and 19% of rapists were arrested for committing a new sexual offense. After 25 years, 52% of child molesters in the sample and 39% of rapists were arrested

for committing a new sexual offense. In addition, the CSOM (2001) listed recidivism rates among child molesters institutionalized for the treatment of a mental disorder. According to this report; after five years, 6 % of incest child molesters, 25% of opposite sex child molesters, and 30% of same-sex child molesters committed another sexual offense. The CSOM argued that the lack of focus on offenders placed on probation, various definitions of recidivism, and the different methodologies found in empirical studies all hinder efforts to estimate recidivism rates among child molesters. However, researchers should not be deterred in studying ways to prevent sexual violence as the irrefutable harm to victims and their families, the high re-offending rates for some types of offenders, and the financial cost of incarceration; which averages \$22,000 a year per offender, highlight the need for effective research on child molestation (Center for Sex Offender Management, 2000; Vanhouche & Vertommen, 1999; Ward, Hudson, Johnson, & Marshall, 1997).

Fortunately, research on child sexual abuse has increased over the past twenty years (Lyn & Burton, 2005; Roberts, Doren, & Thornton, 2002; Manderville-Norden & Beech, 2004). The traditional literature on sex offenders focused on theories emphasizing single factors, such as deviant sexual arousal, as responsible for sexual offending behavior (Finkelhor, 1984). The contemporary literature has advocated multifactor models and suggested that a variety of elements influence the onset and maintenance of sexual crimes (Bumby, & Hansen, 1997; Hanson & Morton-Bourgon, 2005; Lyn & Burton, 2005; Manderville-Norden & Beech, 2004; Ward & Marshall, 2004). In addition to deviant sexual arousal; physiological factors, personality and attitude characteristics, victimization histories, deficient interpersonal relationships, and poor social functioning are considered important elements in the contemporary multifactor models (Bumby, & Hansen, 1997). Hudson and Ward (1997) argued the next step in improving theories

of sexual offending behavior is to develop an organizing framework describing the mechanisms by which sexual offending behaviors progress. There is also a growing consensus that studies identifying factors correlated with recidivism are limited unless they include a theoretical framework describing the nature or interaction among these correlated variables (Hudson & Ward, 1997; Kirsch & Becker, 2006; Roberts, Doren, & Thornton, 2002; Ward et al., 1997).

In response to this criticism, researchers have recently turned to attachment theory to conceptualize sexual offending behavior (e.g., Craissati, McClurg, & Browne, 2002; Jamieson & Marshall, 2000; Lyn & Burton, 2005; Marsa et al., 2004; Marshall, 1989; Marshall & Mazzucco, 1995; Sawle & Colwell, 2001; Ward & Hudson, 1996; Ward, Hudson, & Marshall, 1996). Marshall (1989) characterized sex offenders as failing to achieve secure attachments in childhood and adulthood, and hypothesized that insecure attachment may lead to attempts to meet intimacy needs through deviant sexual activity. Other authors have hypothesized that insecure attachment contributes to the development of cognitive distortions regarding adult-child sex that typifies child molesters (Covell & Scalora, 2001; Ward, 2000; Ward et al., 1997). Although these hypotheses have been widely discussed, they have received little empirical validation. Smallbone and McCabe (2003) described the empirical support for the etiological significance of insecure child attachment among sex offenders as only tentative. Moreover, early studies of parental attachment among sex offenders have produced inconsistent results and need closer empirical examination (Marshall, Serran, & Cortoni, 2000; McCormack; Hudson, & Ward; 2002).

Generally speaking, inconsistent results within a literature might result from methodological problems, which can be corrected by using experimental or statistical manipulations of variables (Smallbone & Dadds, 1998). The literature on sex offending will

likely benefit from this type of research, which would go beyond simple descriptive correlations and thus provide greater understanding of the complex nature of sexual offenses. In doing so, the findings have the potential to inform and improve prevention as well as intervention efforts.

One statistical method that goes beyond simple correlations is path analysis, which was developed by Sewall Wright over 80 years ago (Wolfe, 2003). Path analysis is an extension of multiple regression analysis, which allows a theoretical model of influential order among variables to be tested (Streiner, 2005). Despite its previous name of ‘casual modeling,’ path analysis cannot establish causality or to create models of influential order. Instead, it is a technique testing theoretical models by examining whether a pattern of inter-correlations among variables ‘fit’ the path suggested by a theory as to which variables are causing other variables. In other words, path analysis determines whether statistical data is consistent with a theoretical model. It can also compare different models to determine which one best fits the data.

Utilizing path analysis can contribute greatly to the literature on sex offenders. It will allow researchers to examine more complex relationships among variables than those previously studied. In addition, researchers can use path analysis to test theoretical models regarding the development of factors associated with sexual offenses, and compare these models to determine which one best fits data from empirical studies. The present study was designed to test several models derived from attachment theory in regard to sexual offenses against children. The study assessed parent-child bonding experiences; views of the self, others, and the future; adult romantic attachment; fear of intimacy; and cognitive distortions regarding adult-child sex among adult child molesters and non-offending adult males. Path analyses were used to explore three models consisting of three different influential orders of variables. The results were expected to show which model best fit the data, shedding light on how certain variables associated with child

molestation influence one another. The study further assessed group differences among these variables.

## Attachment Theory

### *Internal Working Models*

The foundations of attachment theory are found in psychoanalytic and object relations theories (Diamond & Blatt, 1994). According to object relations theories, the earliest dynamic relationships between a child and caregivers are internalized by the child and translated into intra-psychic structures. Internalization results in the development of representations (or ‘schemata’) of the self and objects (i.e., others). Infants are born with fused representations of the self and objects. As they mature, the ego becomes more developed and breaks down this fusion. Early theories of object relations argued that the ability to separate self-representations from object-representations was influenced by psychosexual stages as well as libidinal and aggressive impulses. In addition, these representations were considered multilayered in that they included both conscious and unconscious aspects. The conscious aspects included accurate depictions of reality, but the unconscious aspect reflected more of the child’s fantasies and unmet needs.

Many contemporary object relation theories contend that the level of separation between self-representations and object-representations affects adult interpersonal behaviors (Kernberg, 1984). Kernberg (1984) argued that infants with contradictory representations toward objects use ‘splitting mechanisms’ which keeps conflicting schemata apart by allowing only one to enter consciousness at a time. Thus, the child protects the ‘good’ representation of the object from contamination by the ‘bad’ representation. These splitting mechanisms affect self-representations because they result in poor ego development and limited identity formation. Symptoms of deficient identity formation include emotional lability, codependency, and Borderline

Personality Disorder. Adults with poor ego development are also likely to experience difficulty in forming stable romantic relationships. Several object relational theories contend the connection between poor ego development and adult interpersonal behavior stems from adults attempting to satisfy unconscious and unfulfilled needs that were experienced during childhood (Diamond & Blatt, 1994).

Attachment theorists typically place less emphasis on intra-psychic structures, fantasies, and unmet needs than do traditional object relations and psychoanalytic theories (Fonagy & Target, 2003). Instead, attachment theory focuses more on children's mental representation of real life experiences. According to Bowlby (1969, 1973, 1980), human beings are born with an innate attachment behavioral system that motivates them to seek proximity to people who will protect them in times of need. This attachment system is a function of evolution and develops because infants can only survive if an adult is willing to provide, protect, and care for the infant (Milulincer & Shaver 2005). Fear triggered by natural cues to danger (such as unfamiliarity, sudden sounds, and isolation) activates the attachment system, which results in infants displaying proximity-seeking behaviors, such as crying. Bowlby (1973) argued these proximity-seeking behaviors activate an innate care-giving system within adults, which motivates them to reduce distance from the infant. In response to infant cues, adults generally display caregiving behaviors, such as picking up and holding the infant (Fonagy & Target 2003).

According to Ainsworth (1989), the attachment system progresses through a series of developmental stages. At the start of life, the attachment behavior system is indiscriminate because it is activated whenever the infant experiences fear. Attachment behaviors during this time are simply emitted and not directed towards any specific person. However, infants gradually learn to discriminate among adults and develop preferences for those who are more likely to

respond to their needs. As a result, children direct their proximity-keeping behaviors differently depending on the presence or absence of certain adults. For example, crying behavior may not cease until the infant gains proximity with the mother even if other adults are near. At about six months of age, a new development stage begins as infants develop locomotion and the capacity to form operational thoughts. During this stage, proximity-keeping behaviors of infants become more affective, effective, 'goal corrected,' and their interactions with caregivers become more complex. Furthermore, infants develop their first internal representation of the principal caregiver as they gain the capacity for believing the caregiver exists even when not physically present (i.e., object permanence). This new capacity results in the onset of separation distress when the caregiver leaves the infant. As the interactions with caregivers become more complex, infants and caregivers begin to experience shared emotions, which result in infants forming attachment bonds with certain caregivers. In addition, infants gradually create expectations of how the caregiver will respond to their needs. At first, these expectations are basic, such as adapting to the sleep-wake cycle to routine of the caregiver. However, infants soon organize these expectations internally, which results in the formation of internal working models (Ainsworth, 1989; Bowlby, 1982).

Internal working models are conceived from the joint relational history between infants and caregivers (Bretherton & Munholland, 1999). They serve as a regulation mechanism to interpret and predict the caregiver's and the infant's attachment related behavior, thoughts, and feelings. Working models of the self and of the caregiver are complementary (Ainsworth, 1989; Bretherton & Munholland, 1999). For example, repeated interactions with available and responsive caregivers provide infants with a secure base, which fosters exploration, play, and other social behaviors to promote optimal functioning of a working model of self. Thus, a view

of the self as valued and competent is constructed in the context of a working model of the caregiver as available and supportive (Bowlby 1969, 1973, 1980; Bretherton & Munholland, 1999; Milulincer & Shaver 2005).

Conversely, when caregivers are not supportive and/or available, infants do not attain a sense of security and negative internal working models are formed (Bowlby, 1973). These negative models might include a view of the self as devalued and incompetent, which is constructed in the context of a working model of the caregiver as rejecting, avoidant, or interfering with exploration (Bretherton & Munholland, 1999). In addition, infants display secondary strategies for regulating the anxiety due to feelings of isolation and not having a secure base. A strategy of hyperactivation results in intense efforts to attain proximity to attachment figures, and involves hypersensitivity to signs of rejection and abandonment. A deactivation strategy results in suppressing fears that normally activate the attachment system and inhibiting proximity-keeping behaviors (Milulincer & Shaver, 2005).

#### *Parent-child Attachment*

The traditional literature has consistently supported Bowlby's theory of an attachment behavioral system and the development of internal working models. Ainsworth, Blehar, Waters, and Wall (1979) designed *the Strange Situation* to classify different attachment patterns among infants. The researchers developed a laboratory assessment that placed 12 to 18-month-old infants in unfamiliar environments with their mothers and a stranger in a series of situations ranging from low anxiety (i.e., child playing with mother) to high anxiety (mother leaving child alone with the stranger). Criteria for classifying infant attachment behavior included level of exploration within unfamiliar surroundings, as well as responses to the mother's departure and her return. Three attachment categories were identified: secure, insecure-avoidant, and insecure-



ambivalent. Consistent with Bowlby's theoretical formulations, secure children used their mothers as a secure base for exploration, displayed an increase of attachment behaviors when separated from mother, and sought contact with their mothers upon reunion.

In contrast, insecure children demonstrated less optimal attachment strategies. According to Ainsworth et al. (1979), children classified as having insecure-ambivalent attachments showed signs of anxiety even before being separated from their mothers, were intensely distressed when separated from their mothers, and showed inconsistent responses upon reunion (e.g., seeking contact with mother, yet resisting any interaction with her). On the other hand, Avoidant children rarely cried when separated from their mothers, and tended to ignore their mothers when reunited with her. Although insecure attachment strategies may create a vulnerability to later maladjustment, they are nevertheless adaptive to the infant's current context. Specifically, infants will develop and maintain behaviors that are most successful in gaining caregiver proximity. Research has consistently reported that different forms of infant attachment are associated with distinct caregiving styles. For example, mothers of securely attached infants have been shown to score higher on measures of sensitivity, acceptance, cooperation, and emotional accessibility than mothers of infants with insecure attachments (Ainsworth, 1967; Ainsworth & Bell, 1970; Karen, 1998; Neil & Frick-Horbury, 2001). In contrast, mothers of ambivalent infants are more likely to display chaotic behaviors and inconsistent care giving, whereas mothers of avoidant infants tend to be rejecting or neglectful (Bridges & Connell, 1991; Egeland & Farber, 1984; Neil & Frick-Horbury, 2001).

There is evidence suggesting that parenting styles as defined by Baumrind (1996) parallel the attachment patterns of children. Authoritative parents are more likely to have securely attached children because these parents are sensitive to the child's needs, do not use punitive

discipline, and are more likely to reason with the child in a loving and affectionate manner (Neil & Frick-Horbury, 2001). The authoritarian parent is demanding, unresponsive to the child, tends to use punitive and harsh punishment, physical enforcement, and prohibitive interventions with children (Kochanska, Kuczynski, & Radke, 1989). Neil and Frick-Horbury (2001) suggested the outcomes of authoritarian parenting overlap with the characteristics of avoidant attachment, and found that children of these parents were described as angry, aggressive, isolated, and disliked by their peers. The authors indicated that permissive parenting, which is generally described as inconsistent and insensitive, may be characterized by a withdrawal of love as punishment, and is associated with anxious/ambivalent attached children. Children of these parents have been rated as having low self esteem, immature, and often anxious, which is similar to the description of children with anxious/ambivalent attachments.

Bowlby's theory of internal working models has also found support in research assessing the role of attachment in cognitive development. For instance, securely attached infants have been shown to have a greater capacity for executive storage than insecurely attached infants (Meins & Russell, 1997). Meins and Russell defined executive storage as the capacity to achieve the most advanced level of cognitive functioning. According to the authors, a greater capacity for executive storage reduces the disparity between performance and competence, allowing securely attached infants to perform at their optimum level of cognitive functioning. The authors found that securely attached children outperform insecurely attached children on measures of task completion, problem solving, and are rated by teachers as being more competent and independent. In addition, secure children had a greater ability to engage in symbolic play and follow instructions than insecure children.

Empirical studies have shown that secure children also have a greater capacity for *theory of mind* (Fonagy, Gergely, Jurist, & Target 2002; Fonagy, Redfern, & Charman, 1997). Fonagy et al. (2002) defined theory of mind as a reflective function children develop in order to make attributions about the mental states of self and others. A theory of mind allows children to understand that individuals have thoughts and that the purpose of these thoughts is to represent information. Fonagy and his colleagues argued that the development of a theory of mind permits children to understand, explain, and predict behavior. Studies have shown that secure attachment is positively correlated with the development of a child's *theory of mind* even when chronological age, mental age, and maturity are controlled for (Fonagy et al., 1997). Using the Separation Anxiety Test (SAT: Klagsbrum & Bowlby, 1976) to measure attachment security among children between the ages of three and six years old, Fonagy et al. (1997) concluded that the development of a theory of mind competence, as measured by a task requiring children to assess the desires of others, is heavily influenced by attachment relationships.

Relationship history with caregivers contributes to individual differences in theory of mind development and information-seeking behavior (Astington, 1993; Baldwin & Moses, 1996; Barresi & Moor, 1996; Symons & Clark, 2000). Dunn (1991, 1995) stressed that the family context is the foundation for children to understand the mental states and behaviors of others. Fonagy and Target (1997) described the mechanism by which attachment affects the development of internal working models as 'mirroring.' They argued that children look for ways to manage distress by identifying with the responses of their caregivers, and internalizing these responses in a higher order strategy of affect regulation. Thus, a secure caregiver soothes a child by displaying a response that acknowledges the child's mental state yet serves to alter feelings of distress. Children of these parents learn to mirror these responses and by doing so, develop

positive thoughts about self and others. Children of insecure parents mirror responses that might be considered defensive behavior by their caregivers. For example, a dismissing parent may ignore a child's distress due to adult insecurity or past painful experiences. Ignoring the child is a defense mechanism for the parent, which is mirrored by the child who eventually develops negative thoughts about the self and/or others.

### *Continuity of Attachment Organization*

Although initially dominated by child development research, Bowlby (1969, 1973, 1980) intended attachment theory to be a theory of development throughout the life span. It is widely believed that attachment organization develops as an adaptation to past caregiving environments (Ainsworth, 1979; Collins & Feeney, 2004; George & Solomon, 1999; Main, 1990). Collins and Feeney (2004) argued that adult attachment reflects knowledge obtained during childhood regarding the most effective way to reduce separation distress, meet attachment needs, and derive security and protection from others. In the context of responsive caregiving, secure individuals develop confidence in the availability of others, feelings of closeness, comfort, interdependence, and trust. Although secure attachment is optimal, Collins and Feeney described insecure attachment patterns as 'good enough' strategies to obtain sufficient amounts of security and contact with others, which persist into adulthood often without a reexamination of their usefulness in new caregiving environments. For example, avoidant adults have learned from childhood experiences that their proximity-seeking behaviors are often rebuffed; thus, they inhibit their attachment needs as a strategy to avoid alienating caregivers. On the other hand, given their inconsistent caregiving environments, anxious-ambivalent adults have learned that clinging is an effective strategy for maintaining proximity with caregivers. Not surprisingly, avoidant attachment is characterized by insecurity, distrust, and preference for emotional

distance in adulthood, whereas anxious-ambivalent attachment is characterized by a strong desire for intimacy, but also insecurity and fear of rejection (Ainsworth, 1979).

Researchers have consistently supported the notion that attachment organization is stable over long periods of development. Weinfield, Whaley, and Egeland (2004) argued that stability of attachment organization is not only possible, but also normative. Studies have demonstrated the continuity of attachment from infancy through childhood, adolescence, and early adulthood (Thompson 2000; Weinfield, Whaley, & Egeland, 2004). Despite the high rates of continuity within the literature, however, infant attachment does not appear necessarily deterministic of adult attachment (Weinfield et al., 2004), and several studies have found lawful discontinuity in relation to disruptive life events (Allen, McElaney, Kuperminc, & Jodl, 2004; Cozzarelli, Karafa, Collins, & Tagles, 2003, Waters, Merrick, & Treboux, 2000).

Although amenable to change, attachment theorists have speculated that internal working models of self and others are the mechanisms by which continuity occurs and is maintained over time (Cozzarelli et al., 2003; Hazan & Shaver, 1987; Mireault, Bearor, & Thomas, 2002). Internal working models tend to remain stable despite normative developmental changes, such as a reduced dependence on others and increased ability to protect self (Weinfield et al., 2004). According to Bowlby (1969, 1973), a fundamental tenet of attachment theory is that internal working models are self-perpetuating. That is internal working models tend to persist because individuals tend to selectively enter relationships or caregiving environments that confirm their beliefs about self and others, and for which their learned attachment strategies are most appropriate (Collins & Feeney, 2004). As a result, internal working models formed during early childhood are resistant to change given a stable care-giving environment with repeated and reinforcing relationship experiences (Cozzarelli et al., 2003).

According to Bretherton and Munholland (1999), internal working models are resistant to change for several reasons; including assimilation, automatic processing, and defensive exclusion. Because internal working models of past relational interactions bias what individuals expect from present or future interactions, a tendency exists to assimilate new information about attachment figures into previously established internal working models, as opposed to accommodating old internal working models to new information. In addition, internal working models may be at one time under deliberate conscious control, but they become less conscious and often inaccessible as they become habitual. Automatic processing improves efficiency of cognition by making fewer demands on attention; however, it also reduces cognitive flexibility and the probability of change. Finally, defensive exclusion occurs when individuals selectively exclude perceptions, feelings, or thoughts that would cause anxiety, or emotional distress. Bowlby (1973) suggested that defensive exclusion can be an unconscious act, but also includes deliberate suppression of perceptions, thoughts, and feelings about certain interactions with attachment figures. The consequence of defensive exclusion is that established internal working models are not updated or expanded, and thus less likely to be reevaluated and modified.

### *Adult Attachment*

Conceptually, there are similarities between infant-caregiver attachment and adult romantic attachment. Both types of attachment bonds consist of four defining features: secure base, proximity maintenance, safe haven, and separation distress. Within the infant-caregiver attachment system, caregivers serve as a secure base from which infants interact with the social and physical world (Ainsworth et al., 1978). Infants constantly monitor the proximity to caregivers, becoming distressed when separated from the caregiver, and they will seek a haven of safety when sensing danger. According to Hazan and Zeifman (1999), proximity maintenance

and safe haven behaviors are also characteristic of newly formed adult romantic relationships. Separation distress and the secure base phenomenon develop as a function of adult relationship duration and/or status.

There are also important differences between infant-caregiver attachment and adult romantic attachment (Bretherton & Munholland, 1999). Most notably, infant-caregiver attachment is predominately asymmetrical, whereby infants seek and derive security from caregivers, but do not provide security in return. In contrast, adult romantic attachment is symmetrical because each partner uses the other as a source of security, but also serves as a provider of security. In addition, the care-giving system compliments the infant attachment system, whereas the sexual mating system compliments adult romantic attachment. According to Hazan and Zeifman (1999), infant-caregiver attachment differs from adult romantic attachment in terms of different motivations for physical contact and evolutionary function. Specifically, the primary motivation for infant proximity seeking is to reduce distress, whereas the primary motivation for proximity seeking among romantic partners is sexual attraction. Furthermore, infant-caregiver attachment functions predominately to promote infant survival, and involves biological relatedness to the attachment figure. In contrast, adult romantic attachment does not function to promote individual survival, but rather the propagation of the species and necessarily involves attachment figures that are not genetically related.

In their seminal 1987 study, Hazan and Shaver initially extended Ainsworth's conceptualization of attachment styles to adults in romantic relationships. The authors found that a self-report measure could be used to distinguish adults as secure, avoidant, or anxious/ambivalent. The distribution of attachment classifications was similar to reported proportions for infants with just under half classified as securely attached, and the other half split

evenly between the avoidant and anxious/ambivalent categories. Hazan and Shaver discovered that individuals with different attachment styles differed in the way they characterized romantic relationships. Individuals with secure attachments described love as happy, friendly, and trusting. Conversely, individuals with avoidant attachments described love as involving emotional highs and lows, jealousy, and fear of intimacy; whereas those with anxious/ambivalent attachments described love as involving obsession, desire for reciprocation, extreme sexual attraction, and jealousy.

Hazan and Shaver (1987) also reported that the quality of the relationship with one's parents and the parents' relationship with each other were the best predictors of adult romantic attachment. Subsequent studies have repeatedly demonstrated associations between adult attachment and reported history of early experiences with parents (Conger, Cui, Bryant, & Elder, 2000; Erwin, Slater, & Purves, 2001; Gittleman, Klien, Smider, & Essex 1998; Mireault, Bearor & Thomas, 2002). As a result, researchers generally agree that the quality of adult romantic attachment is derived from the quality and/or disruption of an individual's earliest attachment bonds with parents (Mireault, Bearor & Thomas 2002).

Bartholomew and her colleagues (Bartholomew, 1990; Bartholomew & Horowitz, 1991; Griffen & Bartholomew, 1994) expanded on Hazan and Shaver's work by conceptualizing four distinct attachment styles based on cognitions about the self and others. These researchers argued that a Secure attachment style is characterized by a positive adaptive view of self and others; whereas, the three insecure styles are characterized by negative maladaptive views of self and/or others. Preoccupied attachment reflects a negative view of self but a positive view of others, while Dismissing attachment reflects a positive view of self, but a negative view of others. Fearful attachment reflects a negative view of both self and others. The attachment styles



developed by Bartholomew have been validated by studies correlating each style with measures of self-concept, interpersonal functioning, as well as reports by peers and family of origin (Bartholomew & Horowitz, 1991).

#### *Adult Romantic Attachment and Intimacy*

Intimacy is widely considered to be a vital human need for mental health and psychosocial adjustment (Descutner & Thelen, 1991; Eriskon, 1963, Sullivan, 1953). Close intimate relationships have been cited as the most important sources for individual happiness and sense of meaning in life (Bartholomew, 1990; Pielage, Luteijn, & Arrindell, 2005). In contrast, deficiencies in intimacy have been associated with depression, lower self-esteem, anxiety, and less relational satisfaction (Descutner & Thelen, 1991; Pielage, Luteijn, & Arrindell, 2005; Sherman & Thelen, 1996). Furthermore, the avoidance of intimate relationships can have a deleterious effect on emotional well being, resulting in loneliness, emotional isolation, and ineffective responses to stress (Doi & Thelen, 1993). Although the definition of intimacy is the subject of controversy, researchers typically agree that it involves self-disclosure, affection, closeness, and interdependence between partners (Downey, 2001; Ward & Hudson, 1996). Intimacy has also been conceptualized as encompassing the essential features of communicating personal information, emotional valence (strong feelings), and vulnerability (Descutner & Thelen, 1991). The operational definition of intimacy for empirical studies usually includes the capacity to exchange personally significant thoughts and feelings with another individual who is highly valued (Descutner & Thelen, 1991, Doi & Thelen, 1993; Sherman & Thelen, 1996).

To broaden the understanding and conceptualization of intimate relationships, Descutner and Thelen (1991) proposed the construct *fear of intimacy*, which they defined as the inhibited capacity to exchange thoughts and feelings of personal significance due to anxiety. Individuals

who fear intimacy desire interpersonal closeness but fear rejection, and thus experience anxiety during verbal and non-verbal communication with others. Other important elements include a denial of needs for intimacy, a fear of becoming dependent on others, and a dishonest posture of macho invulnerability (Firestone & Catlett, 1999). The fear of intimacy is a trait or dispositional concept because it can be experienced across wide a range of situations and partners. Although situational factors and the other person are important variables in the experience of intimacy, researchers studying the fear of intimacy primarily focus on the psychological processes within one individual, and emphasize the capacity for intimacy that individuals bring to all close relationships (Sherman & Thelen, 1996).

Research has demonstrated a relationship between intimacy and adult romantic attachment (Neal & Frick-Horbury, 2001). Secure adults do not fear of intimacy because they view themselves as being worthy of care, and perceive others as responsive and dependable (Bartholomew, 1990; Bartholomew & Horwitz 1991, Collins & Feeney, 2004; Hazan & Shaver, 1987). These individuals experience high levels of intimacy in their romantic relationships without losing personal autonomy, and they are willing to ask their romantic partners for both emotional and instrumental support. Secure adults typically display intimate self disclosures and are responsive when their romantic partners self-disclose to them (Collins & Feeney, 2004, Grabill & Kerns, 2000; Mikulincer & Nachshon, 1991). In addition, Secure adults are not likely to have sex outside their primary relationships, but are likely to enjoy physical contact that is both intimate and sexual with their partners (Feeney, 1999).

Secure adults also have positive cognitions about relational events (e.g., arguments) and interpret partner behavior in a manner that increases the intimacy they experience in romantic relationships (Collins & Feeney, 2004). Empirical studies have demonstrated that Secure adults

provide positive explanations for ambiguous and potentially negative relational events, and use these positive explanations to minimize the negative impact of the event (Collins, 1996). When compared to insecure adults, Secure adults express less romantic jealousy and believe the caretaking behaviors of their partners are motivated by altruistic rather than selfish concerns (Collins & Feeney, 2004; Guerrero, 1998; Knobloch, Solomon, & Cruz, 2001).

According to Collins and Feeney (2004), Preoccupied (anxious-ambivalent) individuals are not likely to display a fear of intimacy, but tend to lose their autonomy in romantic relationships because they view themselves as incompetent and unworthy of love. These individuals are highly motivated to form intimate bonds, but do so in order to gain approval of others. A high level of anxiety in romantic relationships often leads to an over-dependence on romantic partners and/or a controlling and over-dominating interpersonal style, which may result in negative affect as well as low levels of trust and relational satisfaction. Preoccupied individuals are also likely to excessively seek support and self-disclose to their romantic partners. Brennan, Wu, and Love, (1998) described these individuals as showing less reciprocity than Secure adults and desiring more touch than all of the other attachment groups. Furthermore, Preoccupied individuals are less discriminate about their sexual partners, more willing to engage in risky sexual behavior, and likely to use sex to satisfy their needs for closeness and acceptance (Collins & Feeney, 2004).

With regards to cognitions about relationship events, Preoccupied adults express high levels of romantic jealousy and hold negative attributions for their partner's transgressions, such as perceiving these transgressions as threats to their relationship (Collins, 1996, Collins & Feeney; Guerrero, 1998). Collins and Feeney (2004) argued that these negative attributions result from a tendency of Preoccupied adults to interpret a partner's transgressions as reflecting more

of their own self-worth rather than a reflection of their partner. In addition, these individuals are less likely than Secure adults to believe that they can be understood, validated, and loved by a romantic partner (Grabill & Kerns, 2000). Thus, Preoccupied adults often experience high anxiety and fears of rejection even though they have a strong desire for intimacy and romantic relationships (Collins & Feeney, 2004).

Similar to Secure and Preoccupied adults, Dismissing individuals do not display a fear of intimacy. They avoid intimate relationships but do not experience anxiety because they view themselves as worthy of love while perceiving others as generally unreliable. These individuals have often been rejected by an early attachment figure, and they cope with this rejection by denying their attachment needs and downplaying the importance of romantic relationships (Collins & Feeney, 2004). Mashek and Sherman (2004) found that when asked to rate the level of actual intimacy and their desired level of intimacy in their current relationship, dismissing individuals actually wanted significantly less intimacy than they currently had. Research has also shown these individuals use distancing strategies when experiencing relational distress, demonstrate low self-disclosure, and respond negatively when others self-disclose to them (Bradford, Feeney, & Campbell, 2002; Collins & Feeney, 2004; Feeney, 1999; Fraley & Shaver, 1999).

Dismissing individuals are not likely to use touch to express emotions; instead they are likely to separate sex from love, engage in casual sex, as well as have sex outside their primary relationship (Collins & Feeney, 2004; Feeney, 1999). In terms of cognitions regarding relationship events, Dismissing individuals are more optimistic about a positive outcome than anxious-ambivalent individuals, but are less optimistic than Secure adults. Collins and Feeney (2004) argued that optimism about relational events may result from Dismissing adults' positive

view of self and a lack of dependence on others. Dismissing individuals also tend to interpret their partners' support as unhelpful and non-caring. Although Dismissing individuals place less importance on intimacy than secure adults, they still have a need for and benefit from romantic relationships (Collins & Feeney, 2004). Research has shown that dismissing adults exhibit physiological arousal and report feeling insecure when separated from their romantic partners during a stressful laboratory situation (Feeney, 1998; Feeney & Kirkpatrick, 1996). In addition, dismissing individuals become relaxed and are calmed by supportive comments made by their romantic partners (Simpson, Rholes, & Nelligan, 1992). Thus, these individuals are not devoid of intimacy needs (Collins & Feeney, 2004).

Of the four adult attachment styles, fearful-avoidant is the most likely to be associated with fear of intimacy because it is characterized by high anxiety and high avoidance of intimate relationships. Fearful individuals desire intimacy but avoid relationships due to a fear of being rejected (Bartholomew, 1990; Bartholomew & Horowitz, 1991). Like Dismissing adults, Fearful individuals view their romantic partners as generally unreliable, use distancing strategies during times of distress, and are not likely to use physical touch to express emotions (Brennan, Wu, Love 1998; Collins & Feeney, 2004). However, similar to Preoccupied adults, they view themselves as unworthy of love, and are hypersensitive to rejection. Although, they do not use touch to express emotions, fearful adults report a greater desire for touch from their partners than preoccupied adults (Brennan et al., 1998; Collins & Feeney, 2004). Fearful adults also experience subjective distress, or hypersensitivity for approval, in the presence of a romantic partner and their communications with partners are usually marked by anxious vocal tones, long response latencies, and physical distance from their partners (Collins & Feeney, 2004; Guerrero, 1996).

According to Collins and Feeney (2004), Fearful adults are likely to interpret conflicts with romantic partners as relationship threatening. They are also more likely than secure adults to view their partners' support attempts as hurtful. Fearful adults usually perceive intimacy as important; however, their emotional desire for intimacy is overridden by their negative cognitions regarding self and others. These individuals may display compulsive caregiving behaviors to cope with their fears and to compensate for a lack of intimate contact with their romantic partner.

#### *Adult Attachment, Abuse, and Psychopathology*

Empirical studies have demonstrated a relationship between childhood abuse and adult romantic attachment. Adults who were victims of childhood sexual abuse and/or childhood physical abuse are more likely to display insecure attachment than non-victims (Twaite, 2004). In addition, Swanson and Mallinckrodt (2001) found that female survivors of sexual abuse whose perpetrator was a family member displayed significantly more adult attachment insecurity than survivors abused by a non-familial perpetrator. Insecure attachment may also be associated with violence in adult romantic relationships. Zeanah et al. (1999) found that partner violence is associated with the infant-caregiver attachment relationship in childhood and perpetrators of partner violence often display insecure adult attachment as well. Blumenthal (2000) described the 'institutional response,' in which childhood victims of abuse later become perpetrators of violence towards others. According to the author, infants respond to separation from caregivers by protest, despair, and detachment, and the experience of prolonged detachment in early development is an important contributor to the onset of the institutional response.

Empirical studies have supported the notion that insecure adult attachment is related to violence towards others, as well as criminality and many forms of psychopathology (Hoermann,

Clarkin, Hull, & Fertuck, 2004; Ireland & Power, 2004; Strodl & Noller, 2003). For example, insecure adult attachment has been found to predict adult depression, personality disorders, and agoraphobia (Hoermann, Clarkin, Hull, & Fertuck, 2004; Strodl & Noller, 2003). In particular, Fearful and Preoccupied individuals are more likely than others to experience anxiety disorders, eating disorders, and borderline personality disorder (Carnelley, Poetromonaco, & Jaffe, 1994; Fonagy et al., 1996; Gittleman, Klein, Smider, & Essex, 1998).

Several researchers have argued that the association between adult attachment, violence, and psychopathology is a result of negative parental bonding during childhood. For example, Fonagy et al. (1997) theorized that adverse psychosocial environments during childhood undermine the creation of coherent working models of attachment relations and limit the capacity to understand the psychological states of others. The authors argued the difficulty in understanding the experience of others likely results in disruptive behavior including crime. Wilson and Hernstein's (1985) Constitutional-Learning Theory suggest behaviors consist of gains and losses and individuals commit criminal acts because they perceive the potential gains as outweighing the losses. Social learning, especially from parents, is viewed as an important factor in determining how individuals assess potential gains and losses of behavior. According to these authors, impulsive and poorly socialized children are at the greatest risk to becoming criminals. Gittleman et al. (1998) also found that parental control is an important predictor of adult distress, and that adult attachment styles failed to mediate the relationship between parental bonding experiences and adult mental health. The lack of mediation suggests that parental bonding and adult attachment independently predicted outcomes of mental health.

In addition to adult mental health, cognitive development may also be negatively impacted by the experience of childhood abuse. Victims of abuse display more negative

cognitions about the self and others, including self-denigratory beliefs, unrealistic pessimism, and hostility towards others than non-victims (Himelein & McElrath, 1996; Waller & Smith, 1994). Gail (1989) argued that victims of abuse also employ rigid defenses such as denial and minimization. Yet, there is other evidence suggesting that childhood abuse does not necessarily impact adult cognitive functioning. Cloitre, Cohen, and Scarvalone (2002) found that women who were abused during childhood without any incidents of adult revictimization held schemas of parents as hostile, but these schemas did not generalize from parental schemas to current relational schemas. Given the mixed findings regarding abuse and cognitive outcomes, there is a need to study the association between cognitive distortions, early attachment, and the experience of childhood abuse.

### Sex Offenders

The literature on sex offenders is relatively sparse with many studies discussing sex offenders in general. However, sex offenders are not necessarily child molesters. Therefore, the current review reported general findings and specified those relating to child molesters.

#### *Parental Bonding among Sex Offenders*

Parental bonding experiences during childhood have been associated with sexual offending behavior. It has been consistently noted that the family backgrounds of sex offenders are characterized by parental neglect, violence, and disruption (Bard, Carter, Knight, Rosenberg, & Schneider, 1987; Craissati & McClurg, 1996, Craissati, McClurg, & Browne, 2002; Marsa, 2004; Romano & De Luca, 1997). Surveys indicate that approximately three quarters of juvenile sex offenders in correctional institutions have a childhood history of poor family relationships, parental separations or loss, foster care placements, physical or sexual abuse, and neglect (Boswell, 1995; Falshaw & Browne, 1997). Studies have also suggested that intra-familial child



molesters are more likely than rapists to regard their mothers as uncaring, abusive, and inconsistent, but rapists are more likely to regard their fathers as abusive and uncaring (McCormack, Hudson, & Ward, 2002; Samllbone & Dadds, 1998). In their meta-analysis, Hanson and Bussier (1998) found that a negative maternal relationship was the sole developmental factor related to sexual offense recidivism.

Craissati et al. (2002) found that child molesters report significantly high levels of disturbed parenting as measured by the Parental Bonding Instrument (PBI; Parke, Tupling, & Brown, 1979). In particular, the most encountered category for these offenders was Affectionless Control, which is consistent with Baker and Beech's (2004) hypothesis that sex offenders are more likely to display fearful and preoccupied attachments. Affectionless control reflects neglectful and indifferent parental care combined with intrusive, rejecting, and abusive control. This inconsistent style of caregiving behavior experienced during childhood has been associated with fearful and preoccupied adult attachment (Egeland & Faber 1984; Neil & Frick-Horbury, 2001). Craissati et al. (2002) also found child molesters recalled their mothers as failing in care; maternal lack of care was the only PBI scale associated with offense-related factors, such as verbal threats to the victim and previous sexual offenses. The authors suggested their study was limited because a control group was not recruited and the extent to which the PBI is consistent with measures of adult attachment has not been determined. They recommended future research use the PBI and other attachment measures to compare childhood and adult attachment among sex offenders.

### *Sex Offenders and Adult Attachment*

Theorists have argued that sex offenders are more likely to display insecure attachment styles than controls, non-offending males, and even victims of abuse (e.g., Fisher, Beech, &

Brown, 1999; Jamieson & Marshall 2000; Lyn & Burton, 2005; Marshall, 1989; Marshall & Barbaree, 1990; Sawle & Colwell, 2001; Smallbone & Dadds, 1998; Ward, Hudson, Marshall, & Siegert, 1995). Using Bartholomew's two dimensional self-other model, Hudson and Ward, (1997) conceptualized child molesters as typically displaying either a fearful or preoccupied attachment style. Baker and Beech (2004) concurred and added that Fearful adults who fear rejection from adult peers might attempt to find intimacy by interacting with children, resulting in a greater sense of intimacy with children than with adults, which may contribute to the development of a sexual preference for children. In addition, individuals with a preoccupied style seek approval from others and sexualize attachment relationships, which might interfere with the ability to distinguish emotional attachment from sexual attraction. Thus, among sex offenders, sex may become associated with the attachment and care-giving systems, resulting in offending behavior. According to the authors, child molesters are less likely to have a dismissing style, which is often marked by general hostility toward others.

Although scarce, there is growing empirical evidence supporting theoretical predictions that sex offenders typically possess insecure attachment styles (Lyn & Burton, 2005). Ward and Hudson (1996) found that insecure attachment is a general vulnerability for all sex offenders; however, child molesters were more likely to display preoccupied or fearful attachment styles than rapists, but less likely than rapists to be dismissive. Jamieson and Marshall (2000) found that compared to 31% of community controls, 70% percent of non-familial child molesters indicated that they were insecurely attached and were five times more like to endorse a fearful avoidant attachment style. The researchers also found that dismissing avoidant sex offenders employed higher levels of aggression in their offenses than did offenders who were fearful avoidant.

### *Sex Offenders and Intimacy*

Marshall (1989) suggested that lack of intimacy and emotional loneliness often result in sex offenders indirectly seeking emotional intimacy through sex, even if they have to force a partner to participate. The fusion of the need for emotional closeness and sex leads to increasing sexual deviancy as offenders escalate their attempts to achieve intimacy through sexual contact (Ward & Hudson, 1996). Empirical studies have provided some evidence for the association between intimacy deficits and sex offending. Sex offenders have been consistently described as socially isolated, lonely individuals who have few intimate relationships (Puglia, Stough, Carter, and Joseph, 2005; Ward, Keenan, & Hudson, 1999). Those offenders with numerous social contacts typically describe these relationships as superficial and lacking intimacy (Marshall, 1989). Incarcerated and non-incarcerated sex offenders have also been found to be more deficient in intimacy and experience more loneliness than controls (Bumby & Hansen, 1997; Seidman, Marshall, Hudson, & Robertson, 1994; Ward & Hudson, 1996). Ward, McCormack, and Hudson (1996) found that sex offenders perceive their romantic relationships as being low in self-disclosure, expression of affect, trust, support, sexual satisfaction, empathy, and commitment. Eher et al. (1999) argued that these negative perceptions create anxiety, which leads to the intimacy deficits displayed by sex offenders.

Studies examining the association between sex offending behavior and the fear of intimacy are limited in number and the results are inconsistent. Hudson and Ward (1997) found no significant differences between sex offenders and controls on scores from the Fear of Intimacy Scale (FIS; Descunter & Thelen, 1991). However, Bumby and Hansen (1997) found that child molesters reported a significantly greater fear of intimacy in adult relationships than rapists and community controls. Bumby and Hansen argued that fear of intimacy is a salient

factor to be considered during the assessment and treatment of sex offenders because offenders might perceive children as less rejecting than adults and perhaps feel less vulnerable in their attempts at intimacy with children. Hudson and Ward (1997) concurred and suggested future research examine differences in the fear of intimacy between sex offenders and controls.

### *Cognitive Distortions among Sex Offenders*

The concept of cognitive distortions is widely studied across various domains of psychology. The literatures on depression, anger, and eating disorders all include explanations of behavior in terms of cognitive distortions (Vanhouche & Vertommen, 1999). Within the literature of sex offending, the study of cognitive distortions is fairly new and unsystematic (Marshall, Anderson, & Fernandez, 1999). Traditionally, the literature was dominated by concepts such as deviant sexual arousal, social skills in heterosexual relationships, drug and alcohol abuse, and the sex history of the offender. The transition from these concepts to the study of cognitive factors was sparked by the cognitive revolution within clinical psychology (Marshall et al., 1999; Vanhouche & Vertommen, 1999).

*Theoretical models of sex offending.* The study of cognitive factors among child molesters has resulted in the development of three distinct theoretical models. The first model draws from the criminological literature and emphasizes a number of lifelong patterns of distorted thinking by individuals who engage in criminal behavior (Murphy, 1990; Yochelson & Samenow, 1977). According to this model, all forms of criminal behavior are influenced by cognitive distortions, which are fundamentally antisocial in nature. Because these distortions are pervasive and generalize to all criminals, the model also claims that the only effective way to avoid recidivism is to modify the criminal thinking of offenders (Vanhouche & Vertommen, 1999).

However, the hypothesis that modifying cognitive distortions is sufficient to prevent recidivism is likely to be overly simplistic (Vanhouche & Vertommen, 1999). First, the assumption that individuals who commit crimes represent a homogenous group is flawed. In the criminological model, individuals who commit crimes due to situational factors are not distinguished from individuals who are truly antisocial. In addition, child molesters are conceptualized as being similar to and displaying the same cognitive distortions as other types of criminals. This conceptualization is widely contradicted by the research, which has demonstrated that child molesters differ from incarcerated non-offenders in distorted perceptions regarding harm due to sexual contact with children, and also regarding children's responsibility for adult's behavior (Fisher, Beech, & Brown, 1999). In addition, the model fails to acknowledge the heterogeneity that exists among child molesters (Bickely & Beech 2001). Therapists who utilize the criminological model risk ignoring individual differences and thereby operate under the assumption that all child molesters have similar psychological issues. This assumption is irresponsible and will likely produce ineffective interventions (Bickley & Beech, 2001). The criminological model provides only a one-dimensional view of understanding sexual crimes against children, which minimally contributes to future research.

The second model using the concept of cognitive distortions to explain sexual crimes evolved out of feminist theory. Based on this model, societal attitudes that support male dominance, adversarial sexual beliefs, and sex-role stereotyping contribute to sexual aggression. Such attitudes are conceptualized as having etiological significance representing one of the causative factors in the occurrence of sexual crimes (Malamuth, 1981; Murphy, 1990). According to the feminist model, offenders must develop insight and modify these harmful attitudes before the cognitive distortions specific to their crimes can be altered. The feminist

model finds some support from demographic statistics, which indicate that the majority of child molesters are male. Unfortunately, studies comparing the rates of sexual abuse across various societies are limited, so empirical support for the model is limited. Moreover, some have argued that this model of sexual aggression contributes more to the literature on rape than child molestation (Burt, 1980). In addition, therapists may have difficulty applying the feminist perspective to female child molesters, or molesters who have same-sex victims.

The third model emphasizes self-statements that child molesters use to deny, minimize, and rationalize their offending behavior. According to this model, the most prevalent forms of distortions are those specifically related to sex offending behavior (Witt et al., 1996). These distortions are viewed as ways child molesters justify their offense, which serves to maintain their behavior (Bickely & Beech 2001; Burn & Brown, 2006; Murphy, 1990). Currently, the self-statement model is the most widely used approach in the study and treatment of child molesters. Self-statements are the foundation of many cognitive-behavioral treatment strategies, which 88% of North American sex offender treatment providers claim to use (Witt et al., 1996).

The self-statement model places an emphasis on the way child molesters perceive and attend to the environment, the way they process information, as well as how they evaluate the consequences of their behavior (Murphy, 1990; Vanhouche & Vertommen, 1999). Marshall et al. (1999) summarized the literature on cognitive distortions and grouped these distortions in terms of denial and minimization, misperception and inappropriate beliefs, as well as cognitive deconstruction. Rogers and Dickey (1991) contended that denial and minimization represent major obstacles for the effective treatment of sex offenders. The authors argued that although there are various reasons sex offenders may use these defenses, the self-reports of these offenders typically include denial of sexually inappropriate behavior, disavowal of any

responsibility for the behavior, as well as the minimization for negative consequences of the behavior.

In addition to denial and minimization, sex offenders typically misperceive their victim's behavior (Vanhouche & Vertomen, 1999). For example, child molesters often perceive children as engaging in sexually provocative activity and manifesting sexual interest. Although child molesters have a vested interest in these perceptions (due to sexual arousal), they appear to misperceive children without any use of conscious reframing (Marshall et al., 1999). Marshall et al. (1999) contended that a common misinterpretation among child molesters is that children who do not fight their abusers are sexually compliant, if not sexually excited. In reality, children who are sexually abused may shut down their responses for fear that they may trigger an escalation of violence. These types of misinterpretations are also evident in the sexual fantasies of offenders. Typically, the sexually fantasies involve children who are enthusiastic about sex, and who actively seduce the molester (Marshall et al., 1999).

Marshall et al. (1999) argued the misperceptions among child molesters are influenced by inappropriate beliefs, such as the idea that children should unconditionally submit to adults. Other common beliefs are: children are sexually responsive, children are not harmed by sex, and that sex with a child is not a crime in the absence of physical violence. Sadly, family members and even court officials often reinforce these beliefs by claiming the victim is lying or being pressured to make accusations (Marshall et al., 1999). In addition to inappropriate beliefs, child molesters often engage in the process of cognitive deconstruction. Baumeister (1991) originally described this process as focusing on immediate gratification in order to avoid shame and guilt while engaging in unacceptable behavior. According to the author, deconstruction involves a low-level awareness where emotional threats are avoided by concentrating on current sensations

and viewing self and action in short-term concrete ways. This low-level awareness blocks awareness of the long-term implications of current behavior. The notion of cognitive deconstruction has been applied to the behavior of sex offenders but the process has not been empirically validated (Marshall et al., 1999; Witt et al., 1996; Ward, Hudson, & Marshall, 1995).

*Implicit theories of sex offending.* Although the study of cognitive distortions among sex offenders has lead to insights on improving treatment outcomes such as victim empathy, the existing literature on cognitive distortions has received harsh criticism. Several researchers have claimed the literature lacks a coherent theory to systematically account for the nature of these distortions (Ward & Keenan, 1997; Ward et al., 1997; Ward & Marshall, 2004). Instead, priority has been given to examining the content of cognitive distortions, while few studies have examined the process of developing and maintaining distorted thinking. Others have criticized the literature for treating various distortions as unrelated and independent beliefs, and for not identifying which distortions indicate a greater need for treatment (Burn & Brown, 2006; Vanhouche & Vertommen, 1999). The field has also been criticized for its research methodologies. In particular, Tierney and McCabe (2001) argued that many of the assessment measures of cognitive distortions among sex offenders possess poor psychometric properties and are generally transparent, which can lead to biased responding toward social desirability. In addition, there are multiple discrepant definitions on what constitutes a cognitive distortion. For example, some researchers argued that denial is not a cognitive distortion and should not be included within the literature (Marshall et al., 1999).

In order to respond to these criticisms, it would be helpful for the literature to elaborate a theoretical framework explaining the development of cognitive distortions. Such a framework would provide a coherent model on how various beliefs interact with one another other, and



would also serve as a guide for future research. In addition, a theoretical model of cognitive distortions would address not only the content, but also the process and maintenance of cognitive distortions (Ward & Keenan, 1999). Ward et al. (1997) argued the process and maintenance of cognitive distortions is vital to an explanation of sexual offending behavior and should be addressed in the literature.

A number of researchers have begun to examine the process and maintenance of cognitive distortions. These researchers argued that cognitive distortions among child molesters emerge from underlying causal theories about the nature of themselves, their victims, and the world, rather than stemming from independent and unrelated beliefs (Burn & Brown, 2006; Drake, Ward, Nathan, & Lee, 2001; Ward & Keenan, 1999). This argument is based on research in developmental psychology, which views cognitive development as driven by the acquisition of implicit theories. Implicit theories are believed to develop in early childhood when children act as scientists to form hypotheses about the self, others, and the world, and then test these hypotheses, discarding those that fail to predict behavior (Drake, Ward, Nathan, & Lee, 2001; Ward & Keenan, 1999). The theories are labeled as implicit because they are difficult to express by the individual and are rarely articulated in a formal sense (Ward, 2000).

Ward (2000) compared implicit theories to scientific theories and identified several similarities: consistency, coherence, comprehensiveness, and explanatory power. He argued that implicit theories contain assumptions that specify ontology and describe human behavior in terms of psychological structures and processes containing a number of interconnected beliefs and concepts. According to Ward, implicit theories produce interpretations of evidence as opposed to neutral descriptions of evidence. In other words, observations of human behavior are theory-laden. Drake et al. (2001) contended that implicit theories are rarely modified because

they dictate what counts as evidence. Consequently, when a discrepancy exists between implicit theories and evidence based on observation, the evidence is usually reinterpreted or rejected. If the evidence cannot be reinterpreted it is usually regarded as an exception to the theory. The failure to critically evaluate evidence is a notable distinction between implicit and scientific theories (Ward, 2000). The research on implicit theories does not suggest that all individuals engage in a personal style of distorted thinking. However, the literature proposes that individuals who experience negative childhood events will develop implicit theories based on these negative experiences to formulate a meaningful interpretation as well as to increase the capacity to predict and control the world (Drake et al., 2001).

Child molesters are conceptualized as having maladaptive implicit theories, which are likely to influence the offender's beliefs about children and how a potential victim will react to abuse, as well as the offender's reaction to the victim's response (Drake et al., 2001; Ward, 2000). Ward and Keenan (1999) have identified several beliefs that appear to indicate the use of five distinct implicit theories among child molesters. The first implicit theory is that children are sexual objects. According to the authors, this theory is based on the belief that individuals are primarily motivated for pleasure and children are viewed as sharing this motivation and being capable of enjoying/desiring sex. Children are mistakenly believed to possess the cognitive capabilities to identify their needs and preferences, evaluate how these needs can be satisfied, set goals for obtaining sex, and develop a plan to achieve their goals. This implicit theory can lead to interpreting normal child behavior as indicative of sexual interest. For example, an offender may perceive as seductive a child sitting in an adult's lap, exposing underclothes during play, or hugging. Viewing sex as an intrinsic part of the child's nature, these offenders are likely to minimize the impact of sexual abuse and may even believe that the abuse benefited the child.

Entitlement is another implicit theory identified by Ward and Keenan (1999). This theory is based on the hypothesis that some individuals are superior and have the right to assert their needs above others who are judged to be less important. Gender, class, or some other factor may serve as the source of this superiority. Offenders with this type of implicit theory are likely to believe that children are less important than adults and are obliged to satisfy the sexual and emotional needs of adults.

Ward and Keenan (1999) labeled the third implicit theory the ‘dangerous world.’ This theory is based on the hypothesis that the world is a dangerous place and that people are likely to act in an abusive and rejecting manner. According to the authors, this theory contains two variations. The first variation is described as a desire to fight against any obstacle of dominance and control. For whatever reason, children are seen as threatening and are sexually abused to ensure the offender’s dominance and control. The second variation of the dangerous world theory consists of the belief that children are less threatening and more dependable than adults. Due to a low self-esteem, offenders holding this belief prefer to relate to children. Children are perceived as being unable to hurt the offender, who consequently believes that relationships with children are safer than those with adults. This variation is supported by research showing that child molesters choose their victims based on perceptions that children are weak and non-threatening (Baumeister, Smart, & Boden, 1996).

The fourth implicit theory according to Ward and Keenan (1999) involves lack of control. This theory is based on the hypothesis that human existence consists of processes that cannot be substantially altered or managed. As a result, situational factors, emotions, and sexual urges “just happen” and individuals cannot exert any personal influence on the world. Offenders who adopt

this theory are likely to view sexual urges as external forces and claim that they are not responsible for their behavior.

The final implicit theory discussed by Ward and Keenan (1999) is the nature of harm. This theory is based on core beliefs that there are degrees of harm and that sexual activity is unlikely to be harmful. Offenders who adopt this theory believe that physical violence results in greater harm than sexual abuse. Thus, these offenders claim they expressed caring behavior because they did not use physical violence. These offenders are also likely to adopt beliefs such as the child is not hurt if he is asleep, or fondling is less harmful than penetration.

The notion of implicit theories represents an initial attempt to explain how cognitive distortions develop and are maintained. The literature on implicit theories responds to some of the criticisms of the existing literature. For example, implicit theories do account for the heterogeneity among child molesters. Different subtypes of offenders are likely to hold different implicit theories, which would result in a diversity of cognitive distortions (Ward, 2000). In addition, this approach provides a theory to explain how the various distortions are interconnected.

Nevertheless, there are definite limitations to the current literature. A major limitation is that none of the initial research includes results from controlled studies. Previous studies placed an emphasis on conceptualization and but failed to provide empirical support. Another limitation is that the literature fails to discuss how implicit theories can be assessed and measured. Implicit theories were identified from a summary of scales that assess cognitive distortions among child molesters. However, a number of these scales have been criticized for being transparent and influenced by social desirability (Tierney & McCabe, 2001). In addition, the literature does not adequately explain the process by which individuals develop implicit theories. Ward (2000)

discussed the importance of early childhood experiences and suggested that the attachment system is related to implicit theories. Yet, it is unclear how attachment organization directly affects the development of implicit theories and cognitive distortions.

### Present Study

The present study represents an extension of a thesis research conducted at the University of North Texas (Wood, 2005). Wood found that child molesters receiving sex offender treatment displayed higher levels of cognitive distortions regarding adult-child sex and significantly more Attachment Anxiety in romantic relationships than controls. However, adult romantic attachment failed to predict the cognitive distortions regarding adult-child sex among child molesters. Although no differences were found in history of childhood sexual or physical abuse, child molesters reported significantly more emotional abuse and neglect than controls. Similarly, scores from the Fear of Intimacy Scale did not display any significant group differences, but were significantly correlated with adult romantic attachment. Specifically, Attachment Avoidance predicted Fear of Intimacy scores but Attachment Anxiety did not. The results of the thesis were limited as only adult romantic attachment was examined and a relatively small sample size was used. The present study addressed these limitations by adding a measure of parent-child bonding experiences and recruiting a larger sample. In addition to extending the results of a research thesis, the present study also utilized path analysis to assess the influential order of variables associated with sex offending behavior. Specifically, the influential order of parental care, adult romantic attachment, cognitions of self, others, and the future, fear of intimacy, and cognitive distortions of adult-child sex was investigated.

## Hypotheses and Data Analysis

Hypothesis 1: Group differences will emerge between child molesters and non-offending controls in terms of parental bonding; adult romantic attachment; views of self, others, and the future; fear of intimacy; childhood trauma; and cognitive distortions. Specifically, it was predicted that:

- a.) Child molesters would score significantly lower on the maternal and paternal Care scales of the PBI, and significantly higher on the maternal and paternal Overprotection scales than non-offending controls. A multivariate analysis of co-variance (MANCOVA) followed up by analyses of co-variances (ANCOVA) tested this hypothesis.
- b.) The early parent-child bonds of child molesters would be more likely than controls to be classified as affectionless control. The early parent-child bonds of non-offending controls would be more likely than child molesters to be classified as optimal bonding. A chi-square analysis tested this hypothesis.
- c.) Child molesters would report significantly more attachment avoidance and attachment anxiety than non-offending controls as measured by the ECR. A MANCOVA followed up by ANCOVAs tested this hypothesis.
- d.) Child molesters would be more likely than non-offending controls to report fearful and preoccupied attachment. In contrast, non-offending controls would be more likely than child molesters to report secure attachment. A chi-square analysis tested this hypothesis.

e.) Child molesters would score significantly higher on the Fear of Intimacy scale than non-offending controls, indicating child molesters had a greater fear of intimacy. An ANCOVA tested this hypothesis.

f.) Child molesters would report more experiences with sexual, physical, and emotional abuse and neglect than non-offending controls. A MANCOVA followed up by ANCOVAs tested this hypothesis.

g.) Child molesters would report significantly more negative perceptions regarding self, others, and the future than non-offending controls report. A MANCOVA followed up by ANCOVAs tested this hypothesis.

h.) Child molesters would score significantly lower on the Child Molester scale than non-offending controls, indicating child molesters endorsed more cognitive distortions regarding adult-child sex. An ANCOVA tested this hypothesis.

Hypothesis 2: Three separate path models derived from the literature were proposed. Model 1 depicts parental bonding predicting cognitions about the self, others, and the future; then adult romantic attachment; fear of intimacy; and cognitive distortions regarding adult-child sex. Model 2 depicts parental bonding predicting adult romantic attachment; cognitions about the self, others, and the future; fear of intimacy, and cognitive distortions regarding adult-child sex. The distinction between Model 1 and Model 2 was that Model 2 entered adult romantic attachment before cognitions about the self, others, and the future. Model 3 depicts parental bonding predicting cognitions self, others, and the future; cognitive distortions regarding adult-child sex; adult romantic attachment; and the fear of intimacy. The distinction of Model 3 was that cognitive distortions were entered before adult romantic attachment and the fear of intimacy.

Within a path analysis, a theoretical model specifying the order in which certain variables predict other variables is compared to a ‘default/just-identified model.’ A just-identified model does not specify an order of prediction and assumes each variable is dependent on every other variable. This model is not considered a good fit for the empirical data because the variance between variables is accounted for by the many paths and not the strength of the path coefficients. Path analysis uses a chi-square statistic to assess the differences between the just-identified model and the theoretical model, which is commonly called a ‘reduced model,’ due to the fewer paths. A non-significant chi-square indicates the theoretical model is a good fit for the data because the fewer paths account for the variance. A significant chi-square indicates the model is not a good fit because the fewer paths do not account for the variance. Path analysis can also be used to compare different theoretical/reduced models to determine which one best fits empirical data (Streiner, 2005).

For the present study Model 1 was expected to present the best fit to the data as compared to Model 2 and Model 3. Three sets of analyses were conducted; the first included the whole sample, the second included only child molesters, and the third included only non-offending controls. Within each set, separate analyses were conducted for early maternal and paternal bonds. It was hypothesized that a fully recursive model would be found in Model 1, such that each variable had a direct effect on all the variables further down the ‘causal chain.’



## CHAPTER II

### METHOD

#### Participants

Participants included 181 adult males: 91 convicted child molesters and also 90 non-criminal participants to serve as the control group. Table 1 summarizes the demographic characteristics of the sample. The mean age for the participants was 42.22 years ( $SD = 12.49$ ) and the mean annual income was \$40,516.97 ( $SD = \$29,176.31$ ). One hundred and twenty-four participants (68.5%) identified themselves as European American, 17 (9.4%) African American, 36 (19.9%) Hispanic/Mexican American, and 3 (1.6%) as “Other.” One participant did not report his race. Twenty-two participants (12.2%) did not graduate high school, 27 (14.9%) had a high school education, 43 (23.8%) attended college but did not obtain a degree, 30 (16.6%) had a 2-year or technical degree, 31 (17.1%) obtained a bachelor’s degree, and 28 (15.5%) had a graduate degree. One hundred and four participants (57.5%) were married, 38 (21.0%) were single, and 39 (21.5%) were divorced or separated.

#### *Child Molesters*

Convicted child molesters were recruited through treatment providers located in the Dallas/Fort Worth area and Lubbock County. The providers were Central Psychological Services (located in Richardson, Texas), Liles Arnold Incorporated (located in Richardson, TX), Stuart Couch, (located in Dallas, Texas), Better Pathways (located in Lubbock, Texas), and The Bears Den Recovery Center (located in Lubbock, TX). One treatment provider is a community counseling center, one represents a private practice without a specialization, and three providers are specialized treatment facilities for sex offenders.

As shown in Table 1, 57 child molesters (62.6%) identified themselves as European American, 8 (.08%) African American, 24 (26.4%) Hispanic/Mexican American, and 1 (.01%) as “Other.” One of the child molesters did not report his race. The mean age for the child molesters was 42.80 years ( $SD = 13.06$ ) and the mean annual income was \$25,379.16 ( $SD = \$19,279.96$ ). Eighteen child molesters (19.8%) did not graduate high school, 19 (20.8%) had a high school education, 23 (25.2%) attended college but did not obtain a degree, 15 (16.5%) had a 2-year or technical degree, 9 (9.9%) obtained a bachelor’s degree, and 7 (7.6%) had a graduate degree. Thirty-one child molesters (34.1%) were married, 27 (29.7%) were single, and 33 (36.2%) were divorced or separated.

Table 2 lists specific characteristics of the child molesters. At the time of the study, all of the child molesters were receiving sex offender treatment as a condition of probation for either felony or misdemeanor sexual offenses against a child. The mean number of months for receiving sex offender treatment was 35.99 ( $SD = 31.00$ ). Sixty-two of the child molesters (68.3%) reported that their sexual offense was the only time they have been convicted or placed on probation for any crime. Twenty-three (25.3%) reported being convicted of other crimes. Nineteen (20.9%) stated they had either previously violated their current probation or been expelled from a treatment center. Twenty-seven child molesters (29.7%) reported receiving counseling other than sex offender treatment during some part of their lives.

### *Controls*

Ninety adult males who have never been convicted of any type of crime nor had been the victim of sexual abuse served as a control group. Offenders of non-sexual crimes might represent a more appropriate comparison group; however, empirical studies indicate that differences

between community subjects and non-sex offenders are rarely found in studies concerning sexual offenses (Marshall & Mazzucco, 1995). In addition, bureaucratic obstacles were likely to cause significant delays in forming such a group.

As shown in Table 1, 67 controls (74.4%) identified themselves as European Americans; 9 (10%) African Americans, 12 (13.3%) Hispanic/Mexican American, and 2 (.02%) as Other. The mean age for the non-offending controls was 41.63 years ( $SD = 11.93$ ) and the mean annual income was \$55,314.61 ( $SD = \$29,691.16$ ). Four controls (.04%) did not graduate high school, 8 (.08%) had a high school education, 20 (22.2%) attended college but did not obtain a degree, 15 (16.6%) had a 2 year or technical degree, 22 (24.4%) obtained a bachelor's degree, and 21 (23.3%) had a graduate degree. Seventy-three controls (81.1%) were married, 11 (12.2%) were single, and 6 (.07%) were divorced or separated.

Among the non-offending controls, 27 (30%) reported having received some type of counseling before the study: 4 (.04%) stated they received counseling less than a year prior to the study, 5 (.05%) reported the counseling occurred 1-3 years ago, 2 (.02%) reported the counseling occurred 3-5 years ago, and 14 (15.5) stated the counseling occurred more than 5 years ago. Two of the controls did not report the length of their prior counseling. Nineteen members of the control group (21.1%) reported knowing someone who has been convicted or placed on probation for a sexual offense. Forty-nine members (54.4%) reported knowing a victim of a sexual crime.

### Measures

The Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) is a 25-item self-report measure of two parenting styles (care and overprotection) that is assessed separately

regarding the respondent's mother and father. Twelve items are included in the Care scale, which represents a continuum of parental style from coldness and neglect to affection and emotional warmth. The Overprotection scale consists of thirteen items representing a continuum ranging from independence to control and intrusion. The combined care and overprotection assessments allow parents to be allocated into one of four categories. Affectionless Control equates to low care and high overprotection; Affectionate Constraint has high care and high overprotection; Weak Bonding/Neglectful Parenting equates to low care and low overprotection; whereas Optimal Bonding has high care and low overprotection (Craissati, McClurg, & Browne, 2002). Respondents answer statements about their parents on a scale ranging from very unlike, moderately unlike, moderately like, to very like. Cutoff scores for mothers are a Care score of 27.0 and an Overprotection score of 13.5. Cutoff scores for fathers is a Care score of 24.0 and an Overprotection score of 12.5. The test-retest reliability of the PBI range from .63 to .76, and the scale demonstrates high construct validity in correlations with other measures of parental behavior ranging from .69 to .85 (Parke, 1983).

The Experiences in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998) is a 36-item self-report attachment measure for adults. The ECR yields scores on two subscales, Attachment Avoidance and Attachment Anxiety. Each subscale consists of 18 items drawn from other popular measures of attachment, and respondents rate their level of agreement with each item on a 7-point Likert scale. Respondents can also be classified into the four distinct styles of attachment proposed by Bartholomew and her colleagues (Bartholomew & Horowitz 1991). Because Secure adults have positive internal working models of self and others, they score low on the Anxiety and Avoidance subscales; whereas Fearful adults have negative self and other models and score high on both subscales. Preoccupied adults score high on the Anxiety subscale

(negative self), but low on the Avoidance subscale (positive other). In the opposite pattern, dismissing adults score high on the Avoidance subscale (negative other) and low on the Anxiety subscale (positive self). The ECR has demonstrated high construct validity in correlations with other measures of attachment range from .82 to .94. The scale has also shown a test-retest reliability of .70.

The Cognitive Triad Inventory (CTI, Beckham, Leber, Watkins, Boyer, & Cook, 1986) is a 30-item self-report measure originally designed to measure the cognitive triad of negative perceptions about self, world (including others), and the future, which were hypothesized to be present in depressed individuals (Beck, Rush, Shaw, & Emery, 1979). However, none of the items specifically mention depression, and it appears the CTI is useful in assessing individual perceptions of self, world/others, and the future (Corcoran & Fischer, 2000). Items on the CTI are phrased in both positive and negative terms and respondents answer the items on a 7-point Likert scale. Each subscale has ten items with a maximum score of 70. Total scores are obtained by summing each subscale score, and higher scores represent more negative views. The maximum total score is 210. The CTI has good internal consistency with alphas of .91 for the view of self, .81 for the view of world, and .93 for the view of the future. The scale also has good concurrent validity with a correlation of .90 with the measures of both self-esteem and measures of hopelessness.

The Fear of Intimacy Scale (FIS, Descunter & Thelen, 1991) is a 35-item self report measure designed to assess the fear of intimacy in a close relationship or at the prospect of a close relationship. Items are worded in the first person and respondents rate their level of agreement on a 5-point Likert scale. Scores from the FIS range from 35 to 175 and the mean score for men is 77.65. Higher scores on the scale indicate a greater fear of intimacy. The FIS

has been shown to be a reliable and valid measure with a coefficient alpha of .93, indicating high internal consistency, and test-retest reliability for the FIS is .89 (Doi & Thelen, 1993). The reliability and validity of the scale has been replicated in several diverse populations (Doi & Thelen, 1993; Sherman & Thelen, 1996).

The Child Molester Scale (CMS; McGrath, Cann, & Konopasky, 1997) was designed to assess cognitive distortions and the use of justification regarding adult-child sex on a 5-point Likert scale. The CMS consists of a total of 126 items. Twenty-two of these items assess cognitive distortions about adult-child sex, but offer justifications for the aberrant sexual behavior. These items are embedded among unrelated questions to reduce the ability of respondents to determine the purpose of the measure. Scores from the 22 items are summed together and high scores indicate fewer cognitive distortions. The mean score for controls on the CMS was 83.8 ( $SD = 7.44$ ) and the means for offenders who answered anonymously was 72.5 ( $SD = 6.72$ ).

The CMS does not appear to be easily influenced by social desirability (Tierney & McCabe, 2001). McGrath et al. (1997) argued that sex offenders who 'fake good' on the CMS did not display significant differences from offenders who answered anonymously, or from offenders who were assessed for parole. However, this may be a limitation as it would be expected that offenders who were "faking good" would show lower levels of distortions than offenders who answered anonymously. In addition, the internal reliability of the CMS has been reported to be modest ( $r = .65$ ), and the scale was developed comparing incarcerated sex offenders with university students; however, initial studies indicate that the CMS is a promising measure with good discriminant validity (Tierney & McCabe, 2001). The measure has been shown to

distinguish child molesters from controls and researchers have argued for the increased use of the CMS in future studies (Tierney & McCabe, 2001; Vanhouche & Vortommen, 1999).

The Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998) is a 28-item retrospective self-report questionnaire designed to assess childhood or adolescent abuse and neglect. The CTQ contains five subscales, three assessing abuse (emotional, physical, and sexual) and two assessing neglect (emotional and physical). There is also a three-item Minimization-Denial subscale to assess for extreme response bias, and attempts to deny experiences of childhood abuse. A 5-point frequency of occurrence scale is used on all items, which ranges from never true to very often true. The CTQ internal consistency reliability coefficients have been shown to range from .66 to .92. The test-retest reliability coefficients range from .79 to .86. Although some researchers have claimed the norm population used to develop the CTQ is limited, other researchers contend the CTQ is appropriate for use in a community sample (Villano et al., 2004; Scher et al., 2001). The Marlowe Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960) was designed to measure broad constructs by which respondents attempt to present themselves in a socially desirable manner. The full scale has 33 items, and consists of two subscales: the Acquiescence subscale measures the tendency to attribute positive but unlikely characteristics, whereas the Denial subscale measures the tendency to deny negative but likely characteristics. Total scores that are greater than 13 are considered high and indicate social defensiveness. The MCSDS is commonly used to assess the honesty of respondents who are completing self-report measures and the validity and reliability of the scale is well documented (Tierney & McCabe, 2001).

## Procedure

Treatment providers were approached during local conferences for sex offender treatment providers, or contacted by phone, and informed about the study. Those who expressed interest in participating were given copies of the questionnaires before any of their child molester clients were contacted. The treatment providers reviewed the questionnaires, but were advised they would not have access to answers given by their clients. All of the providers gave written consent for their clients to be approached about participating in the study. The child molesters were recruited prior to their sessions of group therapy, which all providers used as the mode for sex offender treatment.

Participation in the study was strictly voluntary and all of the clients were ensured of their confidentiality, as well as their right not to participate. The clients were advised about the nature of the study, the length of time needed to complete the questionnaires (approximately 1 hour and 30 minutes), and were informed that the results could help treatment providers improve sex offender treatment. Clients were asked not to consult with anyone while answering the questionnaires, and honesty was encouraged as clients were advised their signed consent forms (which further explained confidentiality and the nature of the research) would be kept separately from the results, ensuring that identifying clients based on their answers would be impossible. The majority of the clients took the questionnaires home to be completed and returned within the following few weeks. One treatment provider (Better Pathways) allowed their clients to individually complete the questionnaires at the treatment provider's office prior to group sessions.

Members of the non-offending control group were recruited after the experimental group was created. Volunteers were recruited through local churches, businesses, and neighborhoods.



Attempts were made, when possible, to match the two groups on race, age, and education level. However, these attempts were limited due to lack of knowledge of the control member before recruitment, and on several occasions the possible ‘matched control’ refused participation in the study. Participants were screened to ensure that they had not been convicted of a crime, and were not the victim of a sexual offense. Participation was strictly voluntary and consent forms were provided explaining the nature of the study as well as confidentiality.

Participants were advised that their answers would serve as a ‘control group,’ to be compared with answers from men who were placed on probation for committing a sexual offense against a child. They were told the results could help treatment providers better understand issues relating to treating sex offenders, thus helping reduce future incidents of abuse. All of the non-offending controls were advised of the estimated time to complete the questionnaire, took the questionnaires home to be completed, and returned them within the following few weeks. After all of the questionnaires were completed, the data was entered into SPSS, version 13.0, graduate package for statistical analysis. The path analyses were conducted using Amos 5 software.

## CHAPTER III

### RESULTS

#### Preliminary Analysis

Means and standard deviations of each scale for the two groups are listed in Table 3. Correlation matrices for primary variables appear in Tables 4, 5, and 6 for the whole sample, child molesters, and non-offending controls, respectively. Preliminary analyses also examined demographic differences between the two groups. An independent sample *t*-test revealed no significant difference in age between child molesters and non-offending controls,  $t(179) = -.628$ ,  $p = .531$ . Similarly, chi-square results indicated that child molesters and non-offending controls did not significantly differ in terms of race,  $\chi^2(3, N = 180) = 5.20$ ,  $p = .158$ . In contrast, an independent sample *t*-test revealed a significant difference between the income of child molesters and non-offending controls,  $t(174) = 7.91$ ,  $p < .01$ , indicating that non-offending controls earned significantly more income than child molesters. In addition, child molesters and non-offending controls also differed in terms of education,  $\chi^2(5, N = 181) = 30.71$ ,  $p < .01$ , with non-offending controls having a higher education level. Child molesters and non-offending controls further significantly differed in terms of marital status,  $\chi^2(2, N = 181) = 42.39$ ,  $p < .01$ , with the non-offending control group participants more likely to be married. Several authors have suggested that marital status not be included in empirical studies regarding sex offenders because an overwhelming majority of sex offenders are not married (Guay, Ouiment, & Proulx, 2005; Langevin, 2006). Consequently, wherever possible and needed, subsequent analyses took into account group differences in income and education. An alpha level of .01 was used to determine significance on all analyses including these covariates.

The mean for child molesters on the MCSDS Denial subscale was 7.31 ( $SD = 3.77$ ), and the mean for non-offending controls was 4.59 ( $SD = 3.40$ ). An independent sample  $t$ -test indicated a significant difference between these scores,  $t(175) = -5.05$ ,  $p < .01$ , suggesting that child molesters tended to deny having negative symptoms. On the Acquiescence subscale, there was a significant difference between the child molesters' mean score of 10.18 ( $SD = 3.47$ ), and non-offending controls' mean score of 6.99 ( $SD = 3.35$ ),  $t(171) = -6.14$ ,  $p < .01$ . Overall, results of the MCSDS suggest child molesters may have been more likely than non-offending controls to respond to self-report items in a socially desirable manner.

### Parental Bonding

Table 3 presents the results for the parental bonding scales. Ten child molesters returned their questionnaires without completing the Mother version of the PBI, which may indicate the death or absence of a maternal figure. Fourteen child molesters and four non-offending controls returned their questionnaires without completing the Father version of the PBI, which may indicate the death or absence of a paternal figure. After ensuring that those with missing data did not systematically differ from other participants in terms of demographic variables, missing values for the PBI subscales were replaced using the mean replaced method separately from the child molesters and the non-offending controls. A multivariate analysis of covariance (MANCOVA) was run with the four PBI subscales as the dependent variables and income and education entered as covariates. Education was recoded into a binary variable of having a college degree versus not having a college degree.

MANCOVA results show that child molesters significantly differed from non-offending controls on the subscales of the PBI,  $F(1,173) = 4.64$ ,  $p < .01$ . However, the assumption of homogeneity of variance was only met for the Paternal Care and Maternal Overprotection

subscales. An analysis of covariance (ANCOVA) was run with income and education entered as covariates as most researchers have found ANCOVA to be robust to violations to the assumption of homogeneity of variance and more preferable than nonparametric alternatives (Rheinheimer & Penfield, 2001). Significant differences were found for the Maternal Care subscale,  $F(1,173) = 12.89, p < .01$ , and the Maternal Overprotection subscale,  $F(1,173) = 9.26, p < .01$ . These findings support hypothesis 1(a) regarding early mother-child bonds. Trends were found for the Paternal Care subscale,  $F(1,173) = 5.90, p = .016$ , as well as the Paternal Overprotection subscale,  $F(1,173) = 5.97, p = .016$ . These findings did not directly support hypothesis 1(a) regarding early-father child bonds.

When the profiles of PBI scores were categorized into four classifications of parent-child bonds, 49.7% of the sample had Maternal classifications of Optimal Bonding, 17.7% Affectionate Constraint, 15.5 % Affectionless Control, and 11.6% Neglectful Parenting. Regarding Paternal classifications, 33.7% of the sample were classified as Optimal Bonding, 4.4% Affectionate Constraint, 22.7 % Affectionless Control, and 29.3% Neglectful Parenting. A chi-square analysis for the whole sample showed no significant differences in PBI Maternal classifications in terms of education,  $\chi^2 (18, N = 181) = 9.07, p = .958$ . Child molesters with a college degree did not differ from molesters without a college degree,  $\chi^2 (3, n = 91) = 2.03, p = .57$ , and non-offending controls with a college degree did not differ from controls without a college degree,  $\chi^2 (3, n = 90) = 8.45, p = .83$ . Similarly, no differences for the whole sample in PBI Paternal classifications were found in terms of education,  $\chi^2 (18, N = 181) = 25.89, p = .103$ . Child molesters with a college degree did not differ from molesters without a college degree,  $\chi^2 (3, n = 91) = .891, p = .83$ , and non-offending controls with a college degree did not differ from controls without a college degree,  $\chi^2 (3, n = 90) = 1.27, p = .74$ . These results suggest that

education would not account for any differences in how parents were classified by the PBI.

Income was not included in these analyses because it was coded as a continuous variable.

As shown in Table 7, chi-square results indicated significance differences between child molesters and non-offending controls in PBI Maternal classifications,  $\chi^2 (3, N = 181) = 11.04, p = .01$ . According to the results, the early mother-child bonds of non-offending controls were more likely than child molesters to be classified as Optimal Bonding, whereas the mother-child bonds of child molesters were more likely than non-offending controls to be classified as Affectionless Control. These results support hypothesis 1(b) regarding early mother-child bonds. Chi-square results also indicated significance differences between child molesters and non-offending controls in PBI Paternal classifications,  $\chi^2 (3, N = 181) = 7.95, p = .047$  (see Table 7). The early father-child bonds of non-offending males were more likely than child molesters to be classified as Optimal Bonding, whereas the father-child bonds of child molesters were more likely than controls to be classified as Affectionless Control. These results support hypothesis 1(b) regarding early father-child bonds of child molesters.

#### *Adult Attachment*

Table 3 presents the results for the ECR Anxiety and Attachment scales. With income and education entered as covariates, results from the MANCOVA showed that child molesters significantly differed from non-offending controls,  $F(1,179) = 9.96, p < .01$ . Follow-up ANCOVAS indicated significant differences in the ECR Anxiety scores,  $F(1,179) = 30.72, p < .01$ , and the ECR Avoidance scores,  $F(1,179) = 12.05, p < .01$ . These findings support hypothesis 1(c) and suggest child molesters experience significantly more attachment anxiety and avoidance in their romantic attachment relationships than non-offending controls.

When the profiles of ECR scores were categorized into four styles of adult romantic attachment, 60.8% of the sample was Secure, 11.6% Fearful, 11.6% Preoccupied, and 15.5% Dismissing. A chi-square analysis for the whole sample showed a significant difference among the ECR attachment styles in terms of education,  $\chi^2 (3, N = 181) = 30.89, p = .03$ , suggesting that participants with higher education were more likely to be secure than those with lower education. However, no differences were found between child molesters with a college degree and molesters without a college degree,  $\chi^2 (3, n = 91) = 2.57, p = .47$ . Similarly, no differences were found between non-offending controls with a college degree and controls without a college degree,  $\chi^2 (3, n = 90) = 5.12, p = .16$ . Income was not included in these analyses because it was coded as a continuous variable.

As shown in Table 7, chi-square results indicated a significance difference between child molesters and non-offending controls in ECR attachment style,  $\chi^2 (3, N = 181) = 17.45, p < .01$ . Non-offending controls were more likely than child molesters to be classified as Secure, whereas child molesters were more likely than non-offending controls to be classified as Fearful or Preoccupied. These results directly support hypothesis 1(d).

#### *Fear of Intimacy*

Table 3 presents the results for the FIS scale. Three offenders returned their questionnaires without completing the FIS leaving a  $N$  of 177. An Analysis of Covariance was run with income and education entered as covariates. A significant difference was found between child molesters and non-offending controls,  $F(1,175) = 6.30, p = .01$ . This finding support hypothesis 1(e) and suggest child molesters experience a greater fear of intimacy than non-offending controls.

### *Childhood Trauma*

Table 3 presents the results for the CTQ subscales. Ten child molesters, as well as one non-offending control returned the questionnaires without fully completing the CTQ, leaving a total  $N$  of 170 for the Childhood Trauma analyses. Results from the MANCOVA using income and education as covariates showed that child molesters significantly differed from non-offending controls on the subscales of the CTQ,  $F(1,168) = 9.16, p < .01$ . However, the assumption of homogeneity of variance was only met for the Denial subscale. ANCOVAS were conducted for each subscale with income and education as covariates and indicated significant differences between child molesters and non-offending controls on the Emotional Abuse subscale,  $F(1,168) = 16.87, p < .01$ , as well as the Emotional Neglect subscale,  $F(1,168) = 23.66, p < .01$ . Child Molesters and non-offending controls also significantly differed on the Sexual Abuse subscale,  $F(1,168) = 10.31, p < .01$ , the Physical Abuse subscale,  $F(1,168) = 7.51, p < .01$ , and the Physical Neglect subscale,  $F(1,168) = 10.69, p < .01$ . No significant differences were on the Denial subscale,  $F(1,168) = .037, p = .85$ . These findings support for hypothesis 1(f) and suggest child molesters experienced more childhood abuse and neglect than non-offending controls.

### *Negative Perceptions*

Table 3 presents the results for the CTI subscales. Eight child molesters and two non-offending controls returned the questionnaires without fully completing the CTI, leaving a total  $N$  of 171 for the Cognitive Triad analyses. Results from the MANCOVA with income and education entered as covariates showed that child molesters significantly differed from non-offending controls on the subscales of the CTI,  $F(1,169) = 9.36, p < .01$ . However, the assumption of homogeneity of variance was not met. ANCOVAS were conducted for each

subscale with income and education as covariates. Significant differences was found between child molesters and non-offending controls on the Self subscale,  $F(1,169) = 25.71, p < .01$ , the World/Other subscale,  $F(1,169) = 17.93, p < .01$ , and the Future subscale,  $F(1,169) = 8.31, p < .01$ . These findings support for hypothesis 1(g) suggesting that child molesters experienced more negative perceptions about self, world/others, and the future than non-offending controls.

### *Cognitive Distortions*

Table 3 presents the results for the CMS scale. An ANCOVA with income and education as covariates found a significant difference between child molesters and non-offending controls,  $F(1,179) = 112.50, p < .01$ . This finding supports hypothesis 1(h) and suggest child molesters endorsed more cognitive distortions regarding adult-child sex than non-offending controls.

### *Path Analysis*

*Whole sample analyses.* Table 4 lists the correlations among scores from the PBI, the CTI subscales, the ECR Avoidance and Anxiety scales, the FIS, and the CMS for the whole sample. Significant correlations were found between the Attachment Anxiety and Avoidance scales,  $r(180) = .474, p < .01$ ; however, previous research with larger samples and similar correlation coefficients suggest that a larger sample size will likely display non-significant correlations between Attachment Anxiety and Attachment Avoidance (Fraley & Waller, 1998). Although distortions regarding adult-child sex were correlated with all variables, only Attachment Anxiety ( $\beta = -.375, p < .01$ ) was a significant predictor of CMS scores. As a result, none of the predicted models stated in Hypothesis 2 are likely to be an adequate fit for the data as compared to a just-identified model. A lack of fit is indicated by a significant chi-square value.

First, the three models were tested using the maternal bonds as the initial predictor. The first model predicted that parental bonding would predict cognitions about the self, others, and



the future; adult romantic attachment; fear of intimacy; and cognitive distortions regarding adult-child sex. Figure 1 shows the standardized path coefficients of Model 1. Consistent with the correlational analyses the model does not adequately fit the data and is significantly different from the just-identified model,  $\chi^2 (21) = 291.11, p < .01$ ; The comparative fit index, CFI = .602, was also below .95 and the root mean square error of approximation, RMSEA = .267, was greater than .05. These results further indicate the model is not an adequate fit. Figure 2 shows the standardized path coefficients of Model 2, which predicted that parental bonding would predict adult romantic attachment; cognitions about the self, others, and the future; fear of intimacy; and cognitive distortions regarding adult-child sex. Model 2 was also not an adequate fit for the data,  $\chi^2 (22) = 389.53, p < .01$ ; CFI = .458, RMSEA = .305. As shown in Figure 3, Model 3 which predicted that parental bonding would predict cognitions self, others, and the future; cognitive distortions regarding adult-child sex; adult romantic attachment; and the fear of intimacy was not an adequate fit as well,  $\chi^2 (23) = 311.15, p < .01$ ; CFI = .575, RMSEA = .264.

Next, the three models were tested using the paternal bonds as the initial predictor. Figure 4 shows the standardized path coefficients of Model 1. As expected from the correlational analyses the model does not adequately fit the data and is significantly different from the just-identified model,  $\chi^2 (21) = 300.29, p < .01$ ; CFI = .597, RMSEA = .272. As shown in Figure 5, Model 2 was also not an adequate fit for the data,  $\chi^2 (22) = 390.53, p < .01$ ; CFI = .468, RMSEA = .305; neither was Model 3,  $\chi^2 (23) = 311.15, p < .01$ ; CFI = .575, RMSEA = .264, which is shown in Figure 6. Overall, the results from this set of path analyses failed to support Hypothesis 2 for the sample.

*Child molester analyses.* Table 5 lists the correlations among scores from the PBI, the CTI subscales, the Attachment Avoidance and Attachment Anxiety scales of the ECR, the FIS,

and the CMS for child molesters. Similar to findings for the whole sample, significant correlations were found between the Attachment Anxiety and Avoidance scales,  $r(90) = .324, p < .01$ . Contrary to expectations, however, only Maternal Overprotection,  $r(81) = -.234, p < .05$ , a negative view of world/others,  $r(85) = -.293, p < .01$ , and a negative view of the future,  $r(86) = -.241, p < .05$ , were significantly correlated with scores from the CMS. In addition, neither Maternal Overprotection ( $\beta = -.179, p = .118$ ), a negative view of world/others ( $\beta = -.185, p = .115$ ), nor a negative view of the future ( $\beta = -.129, p = .295$ ), were significant predictors of CMS scores. As a result, none of the predicted models for child molesters stated in Hypothesis 2 are likely to be an adequate fit for the data as compared to a just-identified model.

The three models were first tested using the maternal bonds as the initial predictor. Figure 7 shows the standardized path coefficients of Model 1. Consistent with the correlational analyses the model does not adequately fit the data and is significantly different from the just-identified model,  $\chi^2 (21) = 110.82, p < .01$ ; The comparative fit index, CFI = .570, was also below .95 and the root mean square error of approximation, RMSEA = .218, was greater than .05. These results further indicate the model was not an adequate fit. Figure 8 shows the standardized path coefficients of Model 2, which was also not an adequate fit for the data,  $\chi^2 (22) = 155.82, p < .01$ ; CFI = .359, RMSEA = .260. As shown in Figure 9, Model 3 was not an adequate fit as well,  $\chi^2 (23) = 140.36, p < .01$ ; CFI = .438, RMSEA = .238.

Next, the three models were tested using the paternal bonds as the initial predictor. Figure 10 shows the standardized path coefficients of Model 1. As expected from the correlational analyses the model does not adequately fit the data and is significantly different from the just-identified model,  $\chi^2 (21) = 122.77, p < .01$ ; CFI = .554, RMSEA = .232. As shown in Figure 11, Model 2 was also not an adequate fit for the data,  $\chi^2 (22) = 164.22, p < .01$ ; CFI = .377,

RMSEA = .268; neither was Model 3,  $\chi^2 (23) = 151.74, p < .01$ ; CFI = .436, RMSEA = .249, which is shown in Figure 12. Overall, the results from this set of path analyses failed to support Hypothesis 2 for child molesters.

*Non-offending control group analyses.* Table 6 lists the correlations among non-offending control group scores from the subscales of the PBI, the CTI subscales, the Attachment Avoidance and Attachment Anxiety scales of the ECR, the FIS, and the CMS. Significant correlations were again found between the Attachment Anxiety and Avoidance scales,  $r(90) = .556, p < .01$ . Although distortions regarding adult-child sex were correlated with all variables except for Maternal and Paternal Overprotection, only Maternal Care ( $\beta = .208, p = .047$ ), and Attachment Anxiety ( $\beta = -.539, p < .01$ ) were significant predictors of CMS scores. As a result, none of the predicted models for controls stated in Hypothesis 2 are likely to be an adequate fit for the data as compared to a just-identified model.

Again, the models were first tested using maternal bonds as the initial predictor. Figure 13 shows the standardized path coefficients of Model 1, which did not adequately fit the data and was significantly different from the just-identified model,  $\chi^2 (21) = 197.65, p < .01$ ; The comparative fit index, CFI = .619, was also below .95 and the root mean square error of approximation, RMSEA = .307, was greater than .05, which further indicated the model was not an adequate fit. Figure 14 shows the standardized path coefficients of Model 2, which was also not an adequate fit for the data,  $\chi^2 (22) = 279.30, p < .01$ ; CFI = .445, RMSEA = .363. Model 3 was not an adequate fit as well,  $\chi^2 (23) = 196.84, p < .01$ ; CFI = .625, RMSEA = .291, which is shown in Figure 15.

Next, the 3 models were tested using paternal bonds as the initial predictor. Figure 16 shows the standardized path coefficients of Model 1, which was not an adequate fit for the data,

$\chi^2 (21) = 201.04, p < .01$ ; CFI = .581, RMSEA = .310. As shown in Figure 17, Model 2 was also not an adequate fit for the data,  $\chi^2 (22) = 235.96, p < .01$ ; CFI = .504, RMSEA = .330; neither was Model 3,  $\chi^2 (23) = 200.11, p < .01$ ; CFI = .588, RMSEA = .294, which is shown in Figure 18. As with child molesters, the results from this set of path analyses failed to support Hypothesis 2.

#### *Post Hoc Analyses*

Two sets of logistic multiple regression analyses were conducted to explore possible predictive models that would significantly predict child molester status. The first set of analyses assessed the continuous scales that demonstrated significant differences in earlier analyses. The second set assessed the categorical variables that previously demonstrated significant differences. The categorical variables were explored because they take into account the various combinations of the continuous variables, which could improve the ability to predict child molester status. Each set of analyses consisted of two models. The first model included demographic variables in the first step followed by the main variables, and the second model was parsimonious by dropping the demographic variables.

In the first set of analyses, the first block of Model 1 comprised income and the dichotomized variable for education (college degree/not having a college degree). The second block consisted of simultaneous entry of the two maternal subscales of the PBI, ECR Anxiety, ECR Avoidance, FIS, the three subscales of the CTI, and the CMS. In Model 2, the block of demographic variables was dropped, leaving only the nine original predictors, which were entered simultaneously. As shown in Table 8, the first block of Model 1 was significant with the demographic variables significantly contributing 44% of the variance accounted for. In logistic regression, Exp(B) is the odds ratio, which is a measure of effect size that indicates the strength

and direction of the relationship between a predictor variable and the dependent variable when all other variables are held constant. Current findings indicated that having a college degree decreased the odds of child molester status by a factor of .33. Although there was a significant difference in income, changes in income did not affect the odds of child molester status. The second block was also significant and added 32% to the variance explained. Education remained significant and cognitive distortions also significantly contributed to the model. Fewer cognitive distortions were associated with decreases of in the odds of child molester status by a factor of .83. Although, the full model chi-square was significant, the Hosmer & Lemeshow's goodness of fit test indicated that the full model was not a good fit to the data,  $\chi^2 (11, N = 181) = 33.16, p < .01$ .

Model 2 dropped the demographic variables to test a parsimonious model representing the original predictors. As shown in Table 8, the Model 2 chi-square was significant and accounted for 62% of the variance, with 86% of all participants accurately classified as non-offending controls or child molesters. Contrary to expectations, only negative view of others and cognitive distortions significantly contributed to prediction of child molester status. An examination of the odds ratios for each predictor revealed that fewer negative views of others decreased the odds of child molester status by a factor of .92. Fewer cognitive distortions were associated with decreases of in the odds of child molester status by a factor of .81. The Hosmer & Lemeshow's goodness of fit test was significant,  $\chi^2 (7, N = 181) = 24.42, p < .01$ , indicating that the parsimonious model was also not a good fit to the data. Furthermore, the chi-square difference method indicated that dropping the demographic variables made a difference in prediction of child molester status and could not be dropped for reasons of parsimony.

In the second set of logistic regressions, the first block of Model 1 again comprised income and the dichotomized variable for education. The second block consisted of simultaneous entry of the categorical variables that demonstrated significance in earlier analyses. Maternal and Paternal bonding classifications were dichotomized as Optimal Bonding versus not Optimal Bonding, as well Affectionless Control versus Non-Affectionless Control. The ECR classifications were dichotomized into Secure versus Non-Secure, Fearful versus Non-Fearful, and Preoccupied versus Non-preoccupied. In Model 2, the block of demographic variables was dropped, leaving only the seven original predictors, which were entered simultaneously.

As shown in Table 9, results from first block of Model 1 were similar to the earlier logistic regression regarding the demographic variables, which explained 44% of the variance. The second block was also significant and added 16% to the variance explained. Education remained significant but Maternal Optimal Bonding and Preoccupied attachment also significantly contributed to the model. Maternal Optimal Bonding decreased the odds of child molester status by a factor of .11. Preoccupied attachment increased the odds of child molester status by a factor of 13.0. The Hosmer & Lemeshow's goodness of fit test was not significant,  $\chi^2(3, N = 181) = 9.25, p = .32$ , indicating the model was a good fit to the data.

Model 2 dropped the demographic variables to test a parsimonious model representing the original predictors. As shown in Table 9, the Model 2 chi-square was significant and accounted for 22% of the variance, with 70% of all participants accurately classified as non-offending controls or child molesters. Maternal Optimal Bonding and Preoccupied attachment were again the only predictors that significantly contributed to the model. Maternal Optimal Bonding decreased the odds of child molester status by a factor of .28. Preoccupied attachment increased the odds of being of child molester status by a factor of 7.0. The Hosmer &

Lemeshow's goodness of fit test was not significant,  $\chi^2 (7, N = 181) = 3.16, p = .81$ , indicating the parsimonious model was a good fit to the data. However, the chi-square difference method indicated that dropping the demographic variables made a difference in prediction of child molester status and could not be dropped for reasons of parsimony. Consequently, Model 1 was selected as the best fitting model.

## CHAPTER IV

### DISCUSSION

Results of the current study supported theoretically based predictions that child molesters would differ from non-offending controls on parental bonding; adult romantic attachment; childhood trauma; negative perceptions of self, others, and the future; the fear of intimacy, and cognitive distortions regarding adult child sex. Hypothesized path models, however, were not significant. It is important to note that the results of the MCSDS indicated child molesters may have been more likely than non-offending controls to answer the self-report questionnaires in a social desirable manner. Tierney and McCabe (2004) observed that researchers should expect some influence of social desirability when utilizing self-report questionnaires with sex offenders. Crowne and Marlowe (1960) also argued that the MCSDS does not distinguish from individuals who are motivated by social desirability from those who genuinely do not have symptoms represented by the items on the scale. In the present study, significant group differences were still found in spite of the possibility that child molesters displayed a response bias, which suggests that any response bias by child molesters was mild and likely to have little impact on the current results.

#### Differences between Child Molesters and Non-Offending Controls

##### *Parental Bonding*

According to Parker et al. (1979), low parental care is associated with rejection and neglect of children whereas high overprotection is associated with over-involvement and possibly role reversing behavior. Although low care in conjunction with high overprotection is somewhat contradictory, this combination reflects inconsistent, possibly chaotic parenting, which



often characterizes the family history of adults who experience trauma in childhood (Craissati et al., 2002) and psychological difficulties in adulthood (Giotakos et al., 2004). This pattern of confusing parental behavior could engender an internal approach/avoidance conflict that is often associated with psychopathology (Bogaerts, Vanheule, & Declercq, 2005). The combination of low care and high overprotection also represents the Affectionless Control category on the PBI, which has been identified as the most pathogenic of the PBI classifications (Craissati et al., 2002; Giotakos et al., 2004; Parker 1983).

The hypothesis that child molesters would score significantly lower on the Maternal Care scale of the PBI, and significantly higher on the Maternal Overprotection scale than non-offending controls was supported. These results are consistent with those found in the literature (Bogaerts et al., 2005; Craissati et al., 2002; Marsa et al., 2004) and support arguments that problematic parental bonding experiences during childhood are associated with future sexual offending behavior (Smallbone & Dadds, 2000; Ward & Hudson, 2000). Craissati et al. (2002) argued that low parental care is an important factor because indifferent or detached parenting may result in the development of impoverished empathic concern for others (i.e. victims) and a greater propensity for violence among children. The authors also suggested low parental care involves a rejecting element which is associated with sex offenders seeking sexual comfort from others, possibly including children. At the other end of the spectrum, overprotection does not support the development of autonomy and self-confidence (Parker et al., 1979). Bogaerts et al. (2005) argued that overprotective parents do not serve as structuring or regulating agents for children, who have fewer opportunities to internalize laws that regulate behavior. Current findings support these arguments for the early mother-child bonds of child molesters. However,

more research is needed to explore the association between child molestation and internal behavior-regulating laws.

In contrast, the hypothesis that child molesters would score significantly lower on the Paternal Care scale of the PBI, and significantly higher on the Paternal Overprotection scale than non-offending controls was not directly supported. Although unexpected, these results are consistent with research suggesting that early maternal-child bonds are qualitatively different than early paternal-child bonds (Bogaerts et al., 2005; Smallbone & Dadds, 2000). There is also evidence suggesting behaviors predicted by maternal bonds are different from behaviors predicted by paternal bonds (Bogaerts et al., 2005, Marshall, Serran, & Cortoni, 2000; Smallbone & Dadds, 2000). Some authors have suggested that the instrumental “playmate” role associated with fathers may have less impact on the child’s development than the emotional caregiver role associated with mothers (Van der Mark, Bakermans-Kranenburg, and van Ijzendoorn, 2002).

The hypothesis that non-offending controls would be more likely than child molesters to have Maternal PBI profiles classified as Optimal bonding, and that child molesters would be more likely than non-offending controls to have Maternal PBI profiles classified as Affectionless Control was supported. These findings provide evidence bolstering arguments that Affectionless Control often characterizes the maternal parenting experienced by many sex offenders (Bard, Carter, Knight, Rosenberg, & Schneider, 1987; Craissati & McClurg, 1996, Craissati, McClurg, & Browne, 2002; Marsa, 2004; Romano & De Luca, 1997). In contrast to current findings for Paternal PBI scales, the hypothesis that non-offending controls would be more likely than child molesters to have Paternal PBI profiles classified as Optimal bonding, and that child molesters would be more likely than non-offending controls to have Paternal PBI profiles classified as Affectionless Control was also supported. These results suggest that Wilson and Hernstein’s

(1985) Constitutional Learning Theory, which states that inconsistent parenting can affect social learning and contribute to criminal behavior, may be applicable to child molesters. Current findings extend the literature to include fathers, as most traditional studies exploring the parent-child bonding of child molesters focused solely on the mother (Bogaerts, Vanheule, & Declercq, 2005). The mixed finding for the Paternal classifications of the PBI versus the PBI Paternal subscales, suggest that including the unique combinations of the subscales in the form of categories improved the ability of the PBI classifications to detect significant differences. The present study suggests that further research is needed to assess the early father-child bonds among child molesters.

#### *Adult Attachment*

The hypothesis that child molesters would score significantly higher than non-offending controls on the ECR Anxiety and the ECR Avoidance scales was supported. In his research thesis, Wood (2005) found a significant difference between child molesters and controls on the ECR Anxiety scale but not the ECR Avoidance scale. As Wood argued, the larger sample size of the current study likely increased the ability to detect significant differences on both subscales of the ECR.

Consistent with Fonagy's (Fonagy, Target, et al., 1997) theoretical model of violence and crime as "disorders of the attachment system...permitted by lack of concerns for others..." (p.230), the greater degree of attachment avoidance found among child molesters in the present study might reflect their characteristic emotional detachment from adults, hostility, and antisocial behavior (Ward & Hudson, 2000). Attachment avoidance may contribute to the failure of child molesters to learn interpersonal skills necessary to achieve intimacy, which then may result in

loneliness (Bumby & Ward, 1997; Hudson & Ward, 1997; Ward & Hudson, 2000). Several authors have argued that sex offenders attempt to cope with loneliness by having sex even if they have to force an adult or child (Marshall & Barbaree, 1999; Ward & Hudson, 2000).

In line with theoretical conjectures (Eher, Neuwirth, Fruehwald, & Frottie, 2003; Hoyer, Kunst, & Schmidt, 2001, Ward, 2000), the greater degree of attachment anxiety found among child molesters in the present study might reflect their characteristic fear of rejection from adults, preference for interacting with children, and the sexualization of attachment relationships. This result is also consistent with Fonagy's (Fonagy, Target, et al., 1997) theoretical model of violence and crime as attachment system disorders, "...motivated by distorted desires to engage the other in emotionally significant interchange" (p. 230). Eher et al.'s (1999) empirical study found that sex offenders display high relational anxiety due to perceptions of themselves as exploitable and a fear of being negatively evaluated by others. Although determining if these variables were antecedents or products of committing sexual offenses was not possible, Eher et al. also found that feelings of being exploitable statistically predicted the occurrence of sexual offenses against minors, and were negatively correlated with the number of sexual assaults against adults. Thus, the authors concluded that high levels of relational anxiety are normative for sex offenders.

The hypothesis that non-offending controls would be more likely than child molesters to be classified as Secure was directly supported. In his thesis research, Wood (2005) did not find a significant difference among child molesters and non-offending controls in terms of the 4 ECR classifications. As Wood argued, and similar to the findings using ECR Avoidance and Anxiety subscales, the larger sample size of the current study likely increased the ability to detect significant differences on these classifications. Current results also suggest child molesters are

more likely than non-offending controls to report insecure attachment and extends the limited empirical evidence supporting theoretical predictions regarding attachment styles among sex offenders (e.g., Fisher, Beech, & Brown, 1999; Jamieson & Marshall 2000; Lyn & Burton, 2005; Marshall, 1989; Marshall & Barbaree, 1990; Sawle & Colwell, 2001; Smallbone & Dadds, 1998; Ward, Hudson, Marshall, & Siegert, 1995).

Consistent with previous research (Hudson & Ward, 1997) and current predictions, child molesters were more likely than non-offending controls to be classified as Fearful or Preoccupied. Both of these attachment styles are characterized by negative models of self and are associated with attachment anxiety (Baker & Beech, 2004; Hudson & Ward, 1997), as well as the Affectionless Control category of the PBI (Baker & Beech, 2004; Egeland & Faber 1984; Neil & Frick-Horbury, 2001). These findings suggest that child molesters, as a group, tend to have negative internal working models of self and experience high levels of anxiety in adult romantic relationships. Although Fearful attachment is also characterized by negative models of others, several authors have argued that it is the negative model of self, resulting in anxiety, rather than negative model of others, that contributes to the link between Fearful attachment style and child molesters (Baker & Beech, 2004; Wood, 2005). Baker and Beech (2004) suggested child molesters are not likely to display the negative views towards romantic partners that characterizes Dismissing attachment and associated more with rapists. Overall, current findings support theoretical arguments in the literature (Baker & Beech, 2004; Jamieson & Marshall 2000; Lyn & Burton, 2005; Sawle & Colwell, 2001) and highlight the need for treatment providers to address romantic attachment styles in their work with sex offenders (Stirpe et al., 2006).

### *Fear of Intimacy*

Following Hudson and Ward's (1997) suggestion, the current study extended the research regarding fear of intimacy among child molesters to a community based population. The hypothesis that child molesters would score significantly higher on the FIS than controls, indicating a greater fear of intimacy, was directly supported. Current findings may help clarify earlier mixed results regarding whether child molesters and controls display significant differences in the fear of intimacy (Hudson & Ward, 1997; Bumby & Hansen, 1997). Hudson and Ward (1997) and Wood (2005) found that child molesters and controls did not differ in terms of the fear of intimacy. In contrast, Bumby and Hansen (1997) found a significant difference between sex offenders and non-offending controls. Differences in the characteristics and sizes of the samples may have contributed to the contradictory results. The present study supports Bumby and Hansen's (1997) argument that sex offenders have a greater fear of intimacy than non-offending controls, which in concert with the perception of children as less rejecting or threatening than adults may result in feeling less vulnerable in their attempts at intimacy with children (Stirpe et al., 2006; Ward et al., 1997). The present study has a greater ability to generalize into community populations as it included a larger sample consisting of child molesters on probation as well as community controls.

### *Childhood Trauma*

Consistent with previous findings within the literature (Bard et al., 1987; Craissati & McClurg, 1996, Craissati et al., 2002; Marsa, 2004; Romano & De Luca, 1997), the hypothesis that child molesters would report more childhood experiences with sexual, physical, and emotional abuse as well as neglect than non-offending controls was directly supported. Craissati

et al. (2002) argued that child molesters who were victimized as children were likely to have experienced a range of child abuses, which are associated with psychosocial difficulties. Adams (2003) contended that childhood trauma can contribute to intimacy deficits, negative peer influences, tolerant attitudes towards sexual offending, and difficulties with emotional/sexual self-regulation among adult sex offenders. She further argued that understanding the long-term effects of childhood abuse can help treat sex offenders more effectively.

Previous studies warn against viewing childhood trauma as including only sexual or physical abuse while overlooking the impact of emotional abuse and neglect (Bagley, Wood, & Young, 1994; Lee et al., 2002; Wood, 2005). Lee et al. (2002) argued that the failure of researchers to explore childhood emotional abuse represents a substantial flaw that plagues the study of childhood abuse associated with sex offending. The authors believe that childhood emotional abuse should be viewed as the core issue in childhood adversities because the concept unites the dynamics and underscores the impact of all forms of child abuse and neglect. In support of this contention, childhood emotional abuse has been found to exacerbate the negative effects of childhood sexual abuse and childhood physical abuse (Bagley et al., 1994; McGee, Wolfe, & Wilson, 1997). Other studies have reported that childhood emotional abuse predicts psychopathology better than childhood physical abuse alone among battered women (Baldry, 2003; Hennings & Klesges, 2003). Interestingly, Bagley et al. (1994) found that men who had been both sexually and emotionally abused displayed sexual interest in children, whereas men who had only been sexually abused did not. The current findings reinforce the importance of childhood emotional abuse and neglect among sex child molesters and suggest all forms of abuse should be further explored by researchers.

### *Negative Perceptions*

The hypothesis that child molesters would report more negative perceptions regarding self, others, and the future than non-offending controls was directly supported. The finding that child molesters had more negative perceptions of self is consistent with previous literature showing that sex offenders generally report lower self-esteem (Fisher & Howells, 1993; Marshall et al., 1997; Marshall & Mazzucco, 1995). Although many sex offender treatment providers specify the need for self-esteem enhancement, few empirical studies have directly examined whether or not sex offenders suffer from deficits in their self-confidence (Marshall & Mazzucco, 1995, Marshall et al., 1997). The present study supports Marshall and Mazzucco's (1995) argument that a marked lack of self-confidence in offenders is a significant component in the development and persistence of sexual molestation. That is, child molesters may be initially attracted to children because a low self-esteem results in viewing adult peers as threatening, whereas children are viewed as submissive and non-threatening. Marshall and Mazzucco (1995) also contended that sex offenders usually feel the negative emotions that are associated with low self-esteem, such as insecurity and depression, immediately before engaging in offending behavior. Although research is limited, there is evidence that improvements in social self-esteem are significantly correlated with reductions in deviant sexual arousal among child molesters, even when deviant fantasies are not directly targeted (Marshall, 1997). Findings such as these are encouraging, but more studies are needed to explore the association between self-esteem and deviant sexual arousal within various contexts such as adult romantic relationships (Wood, 2005). For example, a negative model of self has been associated with attachment anxiety and/or preoccupied attachment among sex offenders. (Baker & Beech 2004)



The finding that child molesters had more negative perceptions of the world/others is also significant as this dimension has not been extensively studied (Anderson & Skidmore, 1995). Negative models of others among sex offenders have been associated with attachment avoidance, which characterizes both dismissing and fearful adults (Baker & Beech, 2004). Furthermore, Ward and Keenan (1999) theorized that sex offenders are likely to have an implicit theory of the 'dangerous world,' which includes a negative perception of others. The resulting fear of rejection by adults and perception of children as safer than adults could lead to child molesters trying to control children through sexual manipulation (Palermo, 2002). This supports contentions that decreasing feelings of rejection is important in the treatment of sex offenders (Palermo 2002; Ward & Keenan 1999).

Negative perceptions of the future is the least studied construct of the CTI (Anderson & Skidmore, 1995) and few empirical studies have explored sex offenders' view of the future, though one study found that juvenile sex offenders were more pessimistic about their future than controls (Hunter, 2000). A negative view of the future may be associated with Ward and Keenan's (1999) implicit theory involving a 'lack of control.' According to the authors, sex offenders may perceive the future as consisting of negative external events that limit their happiness (i.e. probation restrictions), which could contribute to anti-social behavior. The current study empirically supports the notion that child molesters are more pessimistic about their future, but future research is needed to assess whether this negative view of the future is associated with a lack of control.

### *Cognitive Distortions*

The hypothesis that child molesters would score significantly lower on the CMS than

controls, indicating that child molesters endorse more cognitive distortions regarding adult-child sex was directly supported. This result replicates previous research (Wood, 2005) and is consistent with McGrath, Cann, and Konopasky's (1998) report that the CMS distinguishes sex offenders from non-offending males. Moreover, current findings extend those results to a broader population. Specifically, McGrath et al. (1998) assessed incarcerated offenders and used university students as the control group, whereas the present study used a semi-matched group of non-offending controls and a group of child molesters who were not incarcerated, but were on probation and currently receiving sex offender treatment. Thus, the present study has demonstrated that findings regarding associations between cognitive distortions and child molesters can be generalized to community populations.

The finding that child molesters endorsed more cognitive distortions than controls also has significant clinical implications. Almost half of the offenders (40.6%) reported being involved with sex offender treatment for over three years, so the results suggest that despite receiving counseling to reduce such distortions many child molesters continue to endorse more distortions about adult-child sex than non-offending controls. However, it is important to note that the treatment progress of the child molesters was not assessed, and it is possible the molesters would have demonstrated even higher levels of distortions on the CMS prior to receiving treatment. Nonetheless, current findings are in line with previous research reporting that many sex offenders involved in treatment continue to endorse more cognitive distortions than non-offenders (Marshall, 1999). Marshall argued that post treatment supervision of sex offenders is not effective due to the common lack of a relapse prevention plan that monitors cognitive distortions. In addition, Eher et al. (1999) found that incarcerated sex offenders often display a constant increase in cognitive distortions despite being in jail for committing a sexual

offense. The present study supports the notion that cognitive distortions of sex offenders should be continually monitored, regardless if offenders have completed treatment or are in jail (Langevin, Fedoroff, Langevin, & Pettica, 2004; Mandeville-Norden & Beech, 2004).

The present study also supports the use of the CMS in sex offender treatment. According to Marshall (1999), sex offenders often deny or minimize their offense, and can easily distort self-report measures during the initial intake for treatment. Marshall argued that treatment providers should have accounts of the offense available that are independent of the offender's self-serving perspective. Although independent sources are usually beneficial, treatment providers should also utilize assessment measures that are not generally transparent nor heavily influenced by social desirability (Tierney & McCabe, 2001). The present study provides further support that the CMS could be such a measure (Wood, 2005).

### Path Analyses

The hypothesis that an overall path model using Model 1 will present the best fit to the data as compared to Model 2 and Model 3 was not supported. None of the models were an adequate fit and these results were somewhat surprising given theoretical links between the variables. However, there are several possible explanations for these unexpected results. First, some of the measures displayed low alphas, which likely negatively affected the results of the path analyses. In addition, present study utilized the CTI, which was designed to assess general views toward self, world/others, and the future, but not other common distortions associated with sex offending behavior. In contrast, the CMS was designed to assess distortions that are only sexual in nature. Research suggests the cognitive distortions about adult-child sex are qualitatively different from other beliefs (Marshall, 1999; Gannon, 2006). For example, Marshall

(1999) argued that many of the cognitive distortions held by child molesters are not necessarily sexual in nature, and may include fantasies about power and control, the expression of aggression, and/or acts of humiliation and degradation toward past or potential future victims. Following Marshall's argument, CTI scores may not have predicted CMS scores because the two scales measure different types of perceptions.

Scores from the FIS may not have predicted CMS scores because the FIS assesses the fear of intimacy in a close relationship, which may not be associated with the conscious justifications offered by child molesters regarding adult-child sex. In addition, none of the items on the FIS concern sex. Thus, the FIS may not assess the association between sexual activity and intimacy that child molesters are known to confuse (Marshall, 1989; Stirpe et al., 2006). Nevertheless, present findings that the FIS distinguished between child molesters and non-offending controls highlight the importance for future research to explore the association among men whom commit sexual crimes against children.

Another possible explanation for why the results failed to support Hypothesis 2 is that some of the measures assessed general domains rather than attitudes toward a specific relationship. For example, the ECR assessed the general attitudes towards romantic relationships which involves schema including information abstracted from repeated interactions within a variety of attachment relationships. Relationship-specific attachment involves schema that are episodic in nature, and may not be consistent with global/general attachment (Collin & Reed, 1994; Rowe & Carnelley (2003). Rowe and Carnelley (2003) argued that individuals can have an insecure general attachment style, but a secure attachment style with a certain romantic partner. Research has shown that when children or adults were asked to respond to questionnaire items as they relate to 'general attachment style' versus how they relate to the respondents' style with a

specific person (e.g. mother, father, or partner), the results were different (Mario, Finchman, & Lycett, 2000; Ross & Spinner 2001). Thus, had the participants in the present study been asked about their adult attachment style with a specific person (rather than in general as done here) the results might have differed.

Similarly, the CMS assesses cognitive distortions about adult-child sex in general and does not monitor responses towards specific victims. Ward and Keenan's (1999) theorized that some sex offenders may display high levels of empathy for sexual victims other than their own, while maintaining their distortions about adult-child sex regarding their specific victims. Thus, the results of the present study might have differed had the child molesters been asked about cognitive distortions regarding their specific victims.

The results of the present study may have also been affected by the possibility that child molesters do not conform to normative standards of adult attachment behaviors. The attachment system of sex offenders might involve maladaptive and inappropriate combinations of three different systems: parent-child attachment, romantic attachment, and the caregiving system. This interaction may result in behaviors and emotions more characteristic of early parent-child interactions (e.g. proximity-seeking and emotional neediness for nurturance, positive reinforcement, sensitivity and responsiveness from others, etc.) in the context of romantic attachments. In the case of child molesters, early attachment experiences and caregiving tendencies would be confused with romantic attachments involving sexual touch, and would be inappropriately directed at children. Other researchers suggest that different combinations of attachment experiences result in various sex offenders presenting in different ways (Stirpe et al., 2006). Thus, maladaptive and various combinations of the three different systems may reduce the ability of one system to predict the others. In addition, the path models may not have been

able to predict the combinations of different attachment systems among non-offending controls. However, the ability to predict may have been greater than with child molesters as Maternal Care and ECR Anxiety predicted scores on the CMS among non-offending controls.

Finally, sexual offending is a multifaceted phenomenon that cannot be fully explained by any one theory (Lyn & Burton, 2005; Stirpe et al., 2006). During the last 40 years, a variety of perspectives have found associations with various aspects of sex offending behaviors including biological factors (Lalumiere, Harris, Quinsey, & Rice, 2005), socio-cultural influences (Marshall & Eccles, 1991; Stirpe et al., 2006), and psychopathology (Ahlmeyer, Kleinsasser, Stoner, & Retzlaff, 2003). The present study supports the claims that attachment and sex offending is a promising line of inquiry (Lyn & Burton, 2005); however, it is likely that multifactorial models borrowing concepts from various disciplines is needed (Stirpe et al., 2006). Lyn and Burton (2005) caution that empirically validating these complex models will be difficult.

### Post Hoc Analysis

Logistic multiple regression analyses assessed the predictive power of the continuous and categorical variables in order to explore alternative statistical models that would significantly predict child molester status. Results indicated that education was highly predictive of group membership. According to forensic databases, the average for years of education among all sex offenders is 10.1, and researchers have started to consider the impact of education on sex offending (Langevin, 2006; Guay, Ouiment, & Proulx, 2005). In analyses using continuous variables as predictors, only CMS scores significantly predicted child molester status, which further supports McGrath, Cann, and Konopasky's (1998) report that the CMS distinguishes child molesters from non-offending males. However, the model was not a good fit for the data.

In contrast, analyses utilizing categorical variables were a good fit for the data, suggesting that accounting for the various combinations of scaled scores increased the ability to predict child molester status.

Consistent with expectations, Maternal Optimal Bonding was a significant predictor of child molester status. This result provides further empirical support to arguments that problematic maternal bonds are associated with sexual offending (Bard, Carter, Knight, Rosenberg, & Schneider, 1987; Craissati & McClurg, 1996; Craissati, McClurg, & Browne, 2002; Marsa, 2004; Romano & De Luca, 1997). The failure of Paternal Optimal Bonding to predict child molester status may be related to earlier researcher's arguments that behaviors predicted by maternal bonds are different from behaviors predicted by paternal bonds among child molesters (Bogaerts et al., 2005; Marshall, Serran, & Cortoni, 2000; Smallbone & Dadds, 2000). As expected, Preoccupied adult romantic attachment also significantly predicted child molester status, which was consistent with findings from the literature (Baker & Beech, 2004). The failure of fearful attachment to predict child molester status suggests that Preoccupied attachment style may best describe the romantic relationship behavior of child molesters.

Contrary to expectations, Secure attachment did not contribute to the model predicting child molester status. However, current findings specifically suggest that Preoccupied attachment style, as opposed to overall Insecure attachment, may best describe the romantic relationship behavior of child molesters. Thus, collapsing all Insecure classifications into one category to compare against the Secure group may have affected the results. Also unexpected, Affectionless Control for either parent did not significantly predict child molester status. Considering the significant findings regarding Maternal Optimal Bonding, current results suggest that other types of early problematic bonding with mothers may be associated with child molesters. However,

future research needs to explore the affects of different problematic mother-child bonds on child molestation.

### Limitations of the Present Study

Current findings should be interpreted in light of several limitations. For example, all of the measures in the current study were self-reports, thus common method variance may have affected the observed correlations between measures. Response bias may also have occurred as the child molesters were involved in treatment and might have been able to identify socially acceptable answers. Thus, it's possible the molesters 'faked good,' especially on the measure regarding adult-child sex. In addition, the non-offending controls might have felt uncomfortable providing their honest answers and may have responded differently if they directly encountered situations asked about in the study. Furthermore, 68.3% of the molesters stated their offense was the only time they have been convicted or placed on probation. In addition, only 13 child molesters reported having multiple victims. These findings were less than expected and might reflect social desirability. Although, the apparent response bias of child molesters did not appear to mask group differences with non-offending controls, the bias may have reduced the ability to find significant predictors in the path analyses. Studies using more objective assessment measures and/or interviews conducted by trained examiners may be more appropriate for future research (Stirpe et al., 2006). Furthermore, a selection bias might have occurred as non-offending controls willing to participate in child abuse research may not represent the general population. Likewise, child molesters on probation may not represent the population sex offenders as many offenders are incarcerated.



Another limitation is that the present study was not longitudinal and can not make causal conclusions. Research with longitudinal data on attachment is limited. However, ongoing studies are being conducted following infants observed at several different developmental levels, who will soon reach the age in which they will be involved in long-term romantic relationships (Cassidy, 2000). Data from these studies should provide important insights into the attachment system throughout the lifespan. In addition, the use of only one assessment measure of adult attachment and parent-child attachment is another limitation. Although the ECR and the PBI are widely accepted and utilized, Ainsworth (1998) argued that attachment develops in a variety of contexts. Thus, using several measures of attachment might have produced different results.

In addition, treatment progress was not assessed for the child molesters, and it is possible that child molesters who display positive treatment progress may be quite different from molesters who display poor progress. Furthermore, the present sample included a heterogeneous sample of child molesters, and members of this sample varied in terms of the nature of their crimes and the number of victims. These variables have been shown to produce different outcomes (Lee et al., 2002; Marshall et al., 1995), and the heterogeneity may limit the generalizability of the results. Another limitation is that study focused mainly on static variables of the participants and did not assess for dynamic or situational variables. In addition, the present study is limited by the inclusion of only one gender. Research has shown gender differences among variables associated with child abuse, including victim empathy (Perez-Albeniz & de Paul, 2004). Although the majority of child molesters are male (Tardif, Auclair, Jacob, & Carpentier, 2005), including a group of female molesters and controls in the present study would have provided more insight into the effects of gender on the results.

Another possible limitation is the inclusion of the CTI, which was designed to assess the negative perceptions present in depressed individuals. Although, depression has been linked to child molestation (Quayle, Vaughan, & Taylor, 2006; Stinson, Becker, & Tromp, 2005), child molesters in the current study scored lower on all CTI subscales than patients being treated for depression in an outpatient mental health center (Beckham et al., 1986). In addition, the CTI has been previously used in assessing perceptions of self, others, and the future among individuals who are not depressed (Anderson & Skidmore, 1995; Corcoran & Fischer, 2000). The present study contributes to the literature on child molestation because it provides empirical evidence for the use of the CTI in future research and treatment interventions of child molestation. Prior studies utilizing the CTI with child molesters could not be found.

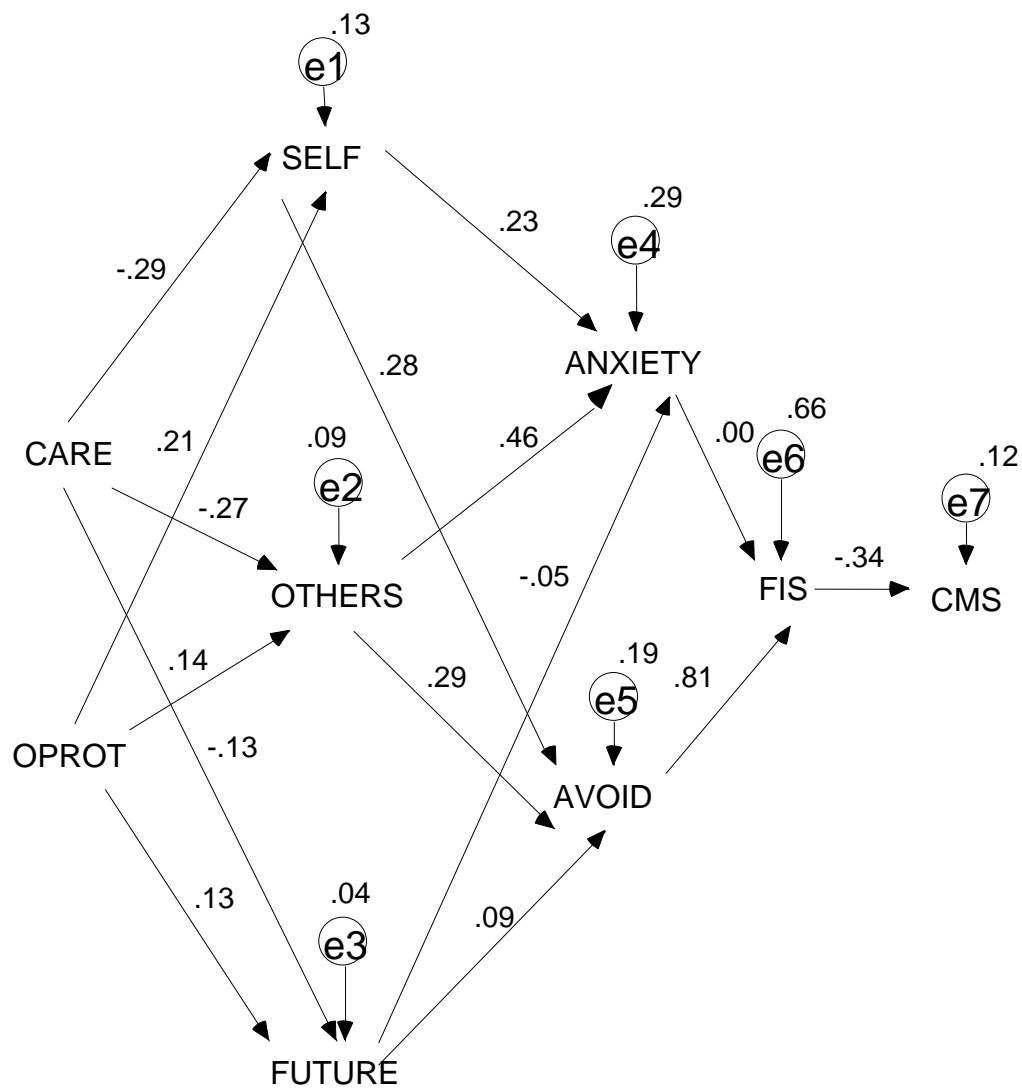
#### Areas for Future Research

The present study suggested several avenues for future research in addition to those discussed above. For example, future research may wish to explore potential within-group differences among child molesters as significant heterogeneity and variables such as nature of the crime, number of victims, and childhood history may produce different outcomes (Lee et al., 2002; Marshall et al., 1995). It is also possible that offenders characterized by different attachment and parental bonding experiences behave and think in different ways. Furthermore, the present study extends the literature on the PBI by including community controls and child molesters on probation. Previous studies utilizing the PBI with sex offenders are often limited due to small sample sizes consisting of incarcerated or institutionalized participants (Bogaerts et al., 2005; Craissati et al., 2002; Marsa, 2004). The current study addressed the need to examine child molesters in different populations and explored possible predictive models in the prediction

of child molester status. Some authors have begun to examine such models (Wood & Riggs, in press), but further research is needed with diverse samples.

### Conclusion

The present study contributes to the literature in numerous ways. Child molesters were compared to a non-offending control group in which they were similar on several important demographic factors. This allows for the results to generalize to community populations not included in prior studies. In addition, the present study provides empirical support for the use of recently developed measures, as well as introducing other established measures to the field of sex offender research. Furthermore, the present results shed light on inconsistent reports in the literature and corroborate previous findings reported in the traditional literature regarding parent-child bonding, adult romantic attachment, fear of intimacy, experience of childhood abuse and neglect, and distortions about adult-child sex. The present study also addressed some of the methodological limitations of previous studies and extended the literature by providing support for a multi-factor model of child molestation derived from attachment theory. Replicating these findings and further exploration of the nature of the attachment system among sex offenders may contribute to more effective prevention and treatment.



*Figure 1.* Path coefficients of Model 1 for sample showing maternal bonding predicting cognitions about the self, others, and the future; adult romantic attachment, fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

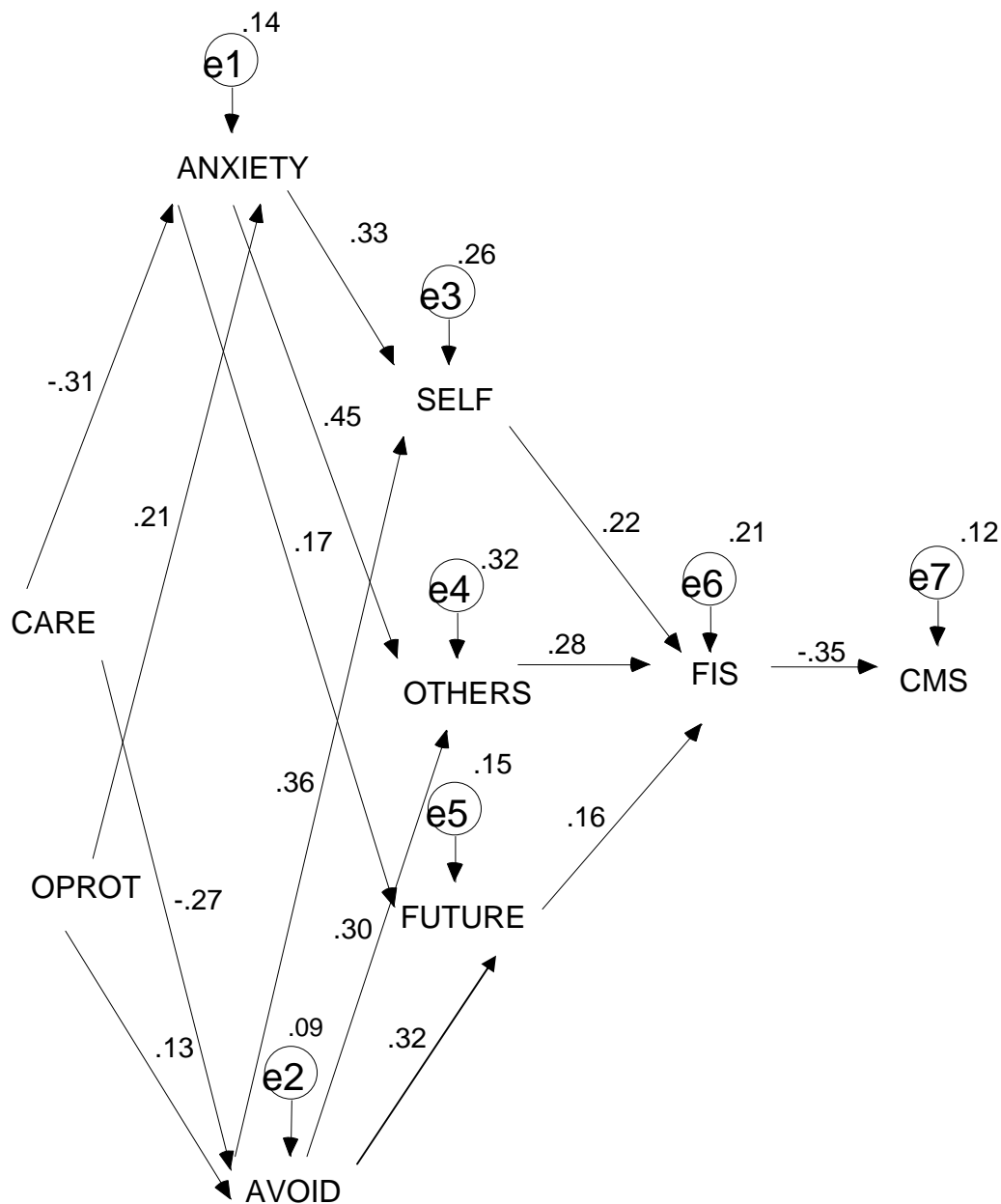


Figure 2. Path coefficients of Model 2 for sample showing maternal bonding predicting adult romantic attachment, cognitions about the self, others, and the future; fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

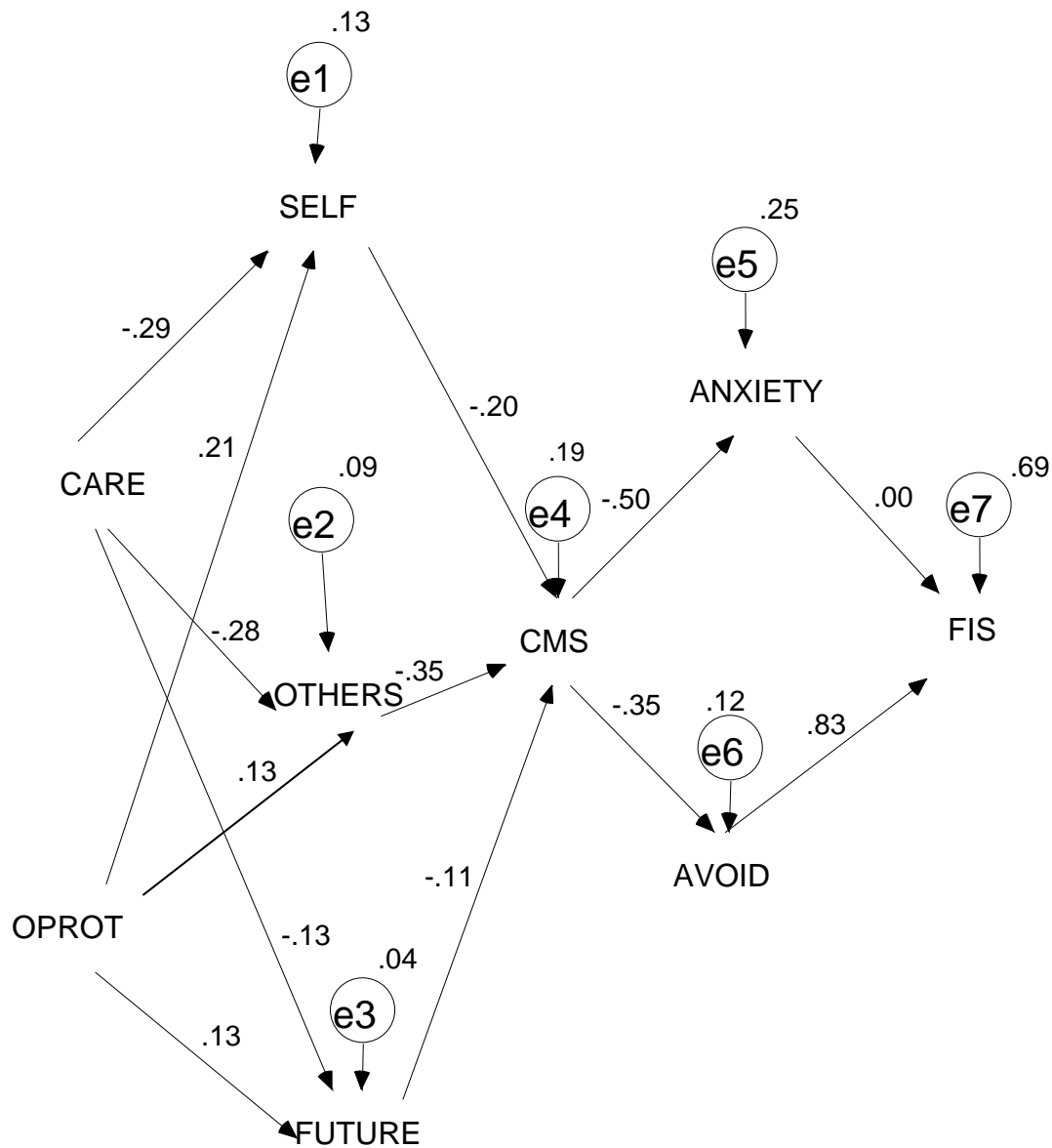


Figure 3. Path coefficients of Model 3 for sample showing maternal bonding predicting cognitions about the self, others, and the future; cognitive distortions regarding adult-child sex, adult romantic attachment, and fear of intimacy. Numbers are standardized  $\beta$  weights.

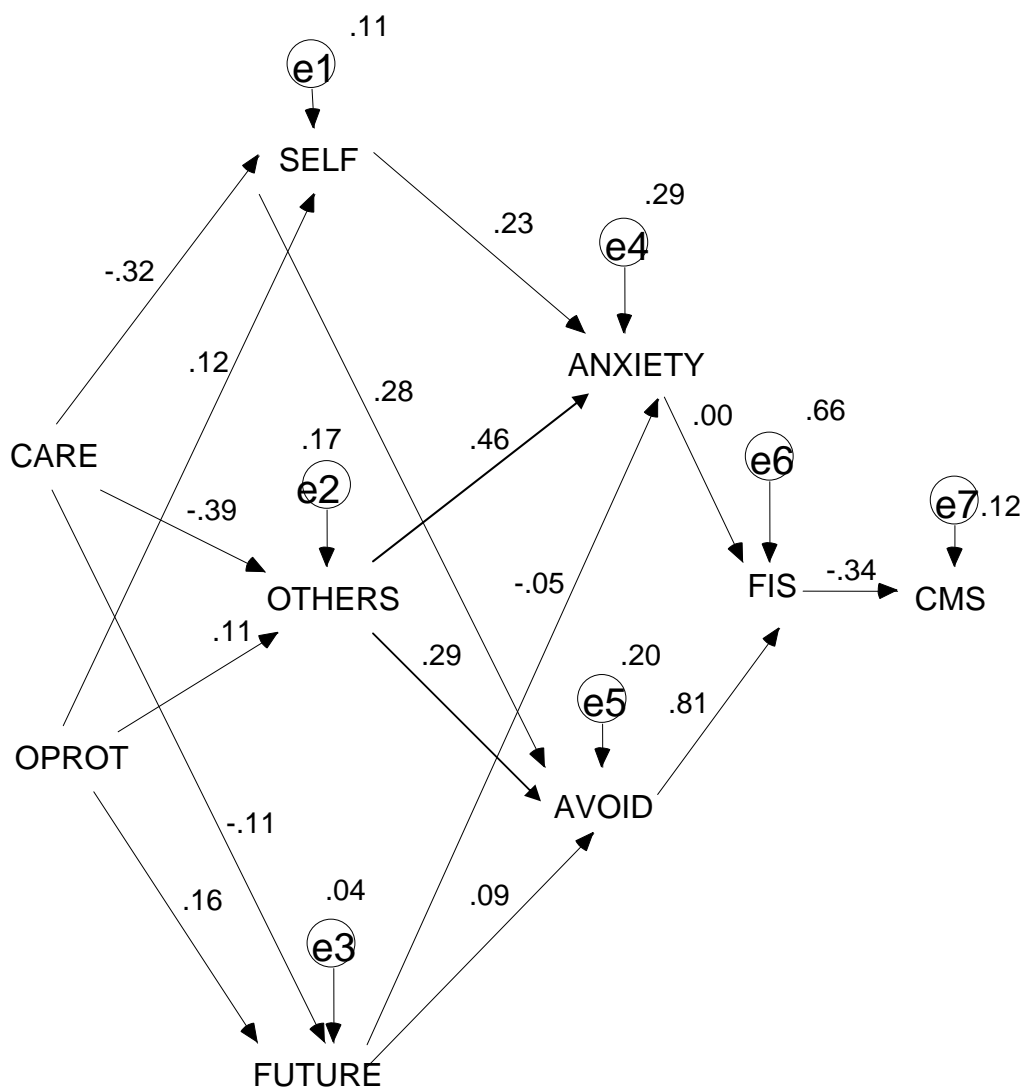


Figure 4. Path Coefficients of Model 1 for sample showing paternal bonding predicting cognitions about the self, others, and the future; adult romantic attachment, fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

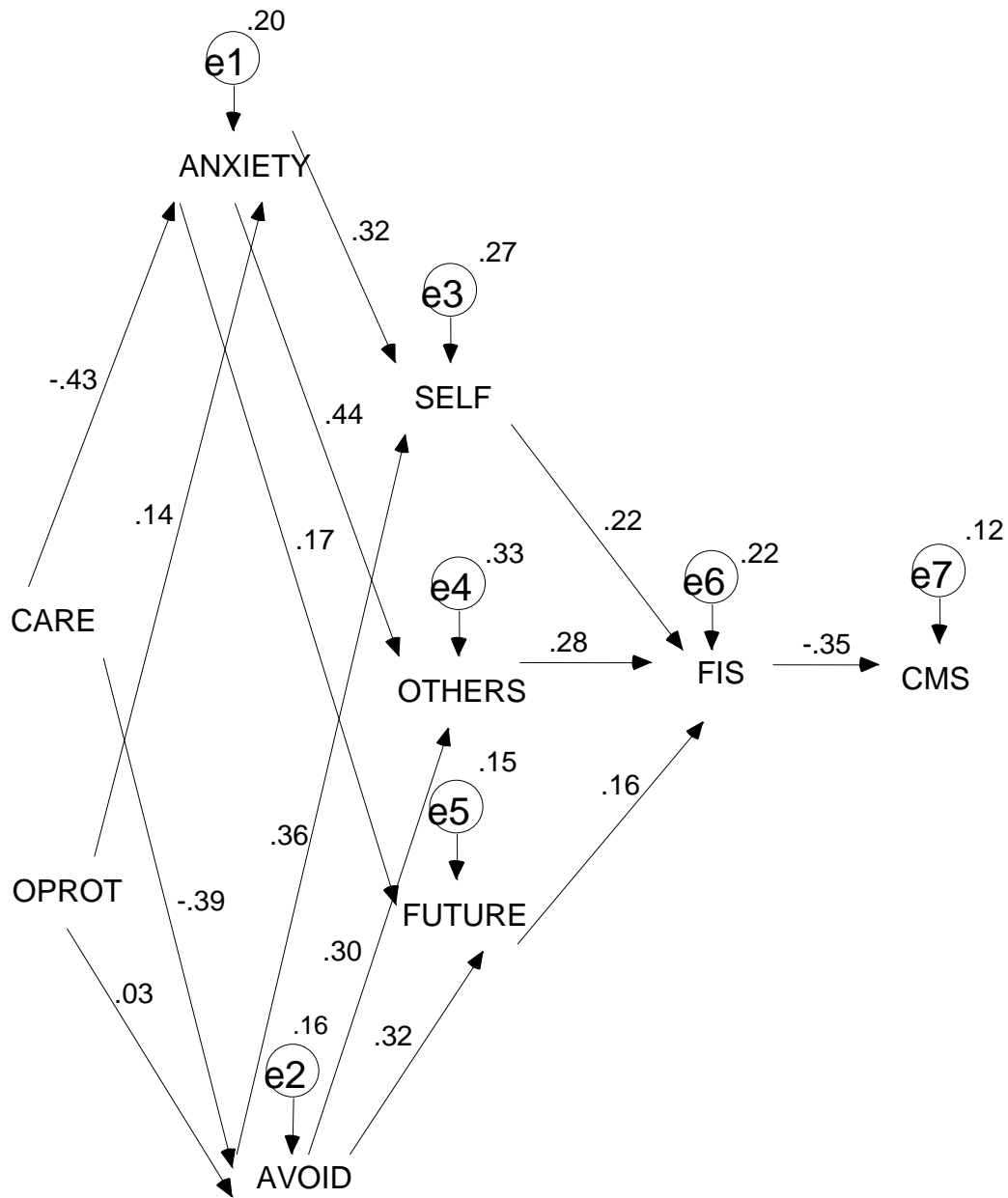


Figure 5. Path coefficients of Model 2 for sample showing paternal bonding predicting adult romantic attachment, cognitions about the self, others, and the future; fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.



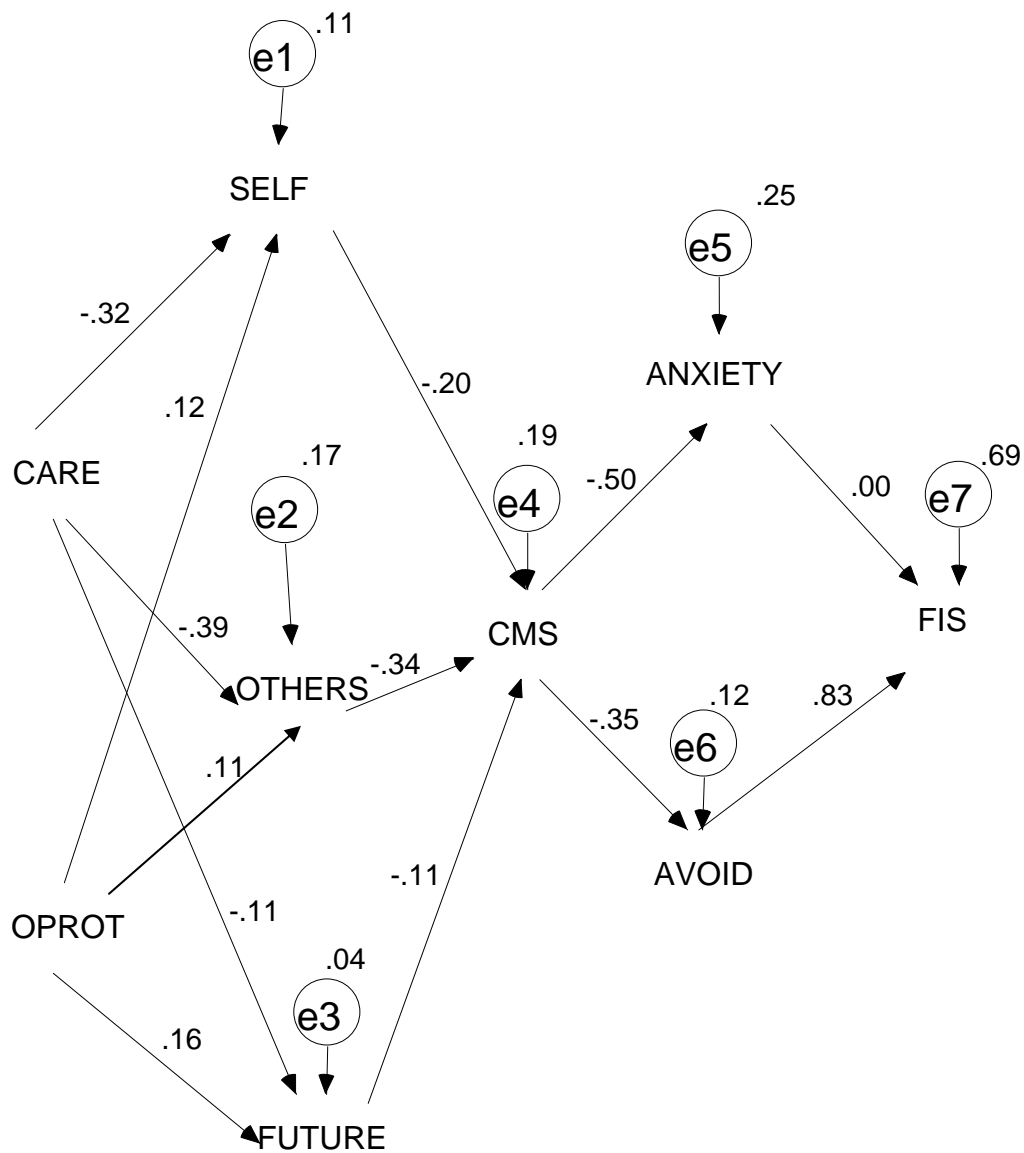


Figure 6. Path coefficients of Model 3 for sample showing paternal bonding predicting cognitions about the self, others, and the future; cognitive distortions regarding adult-child sex, adult romantic attachment, and fear of intimacy. Numbers are standardized  $\beta$  weights.

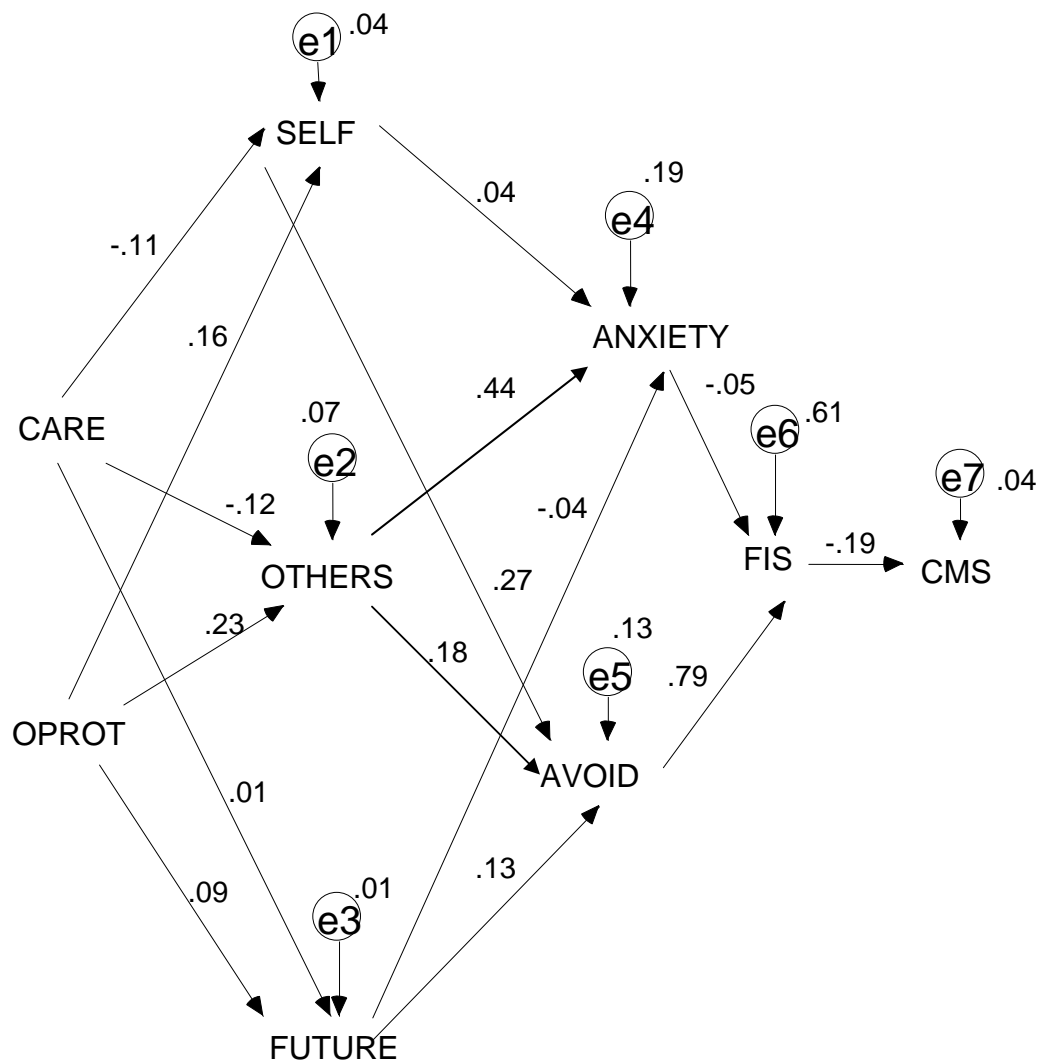


Figure 7. Path coefficients of Model 1 for child molesters showing maternal bonding predicting cognitions about the self, others, and the future; adult romantic attachment, fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

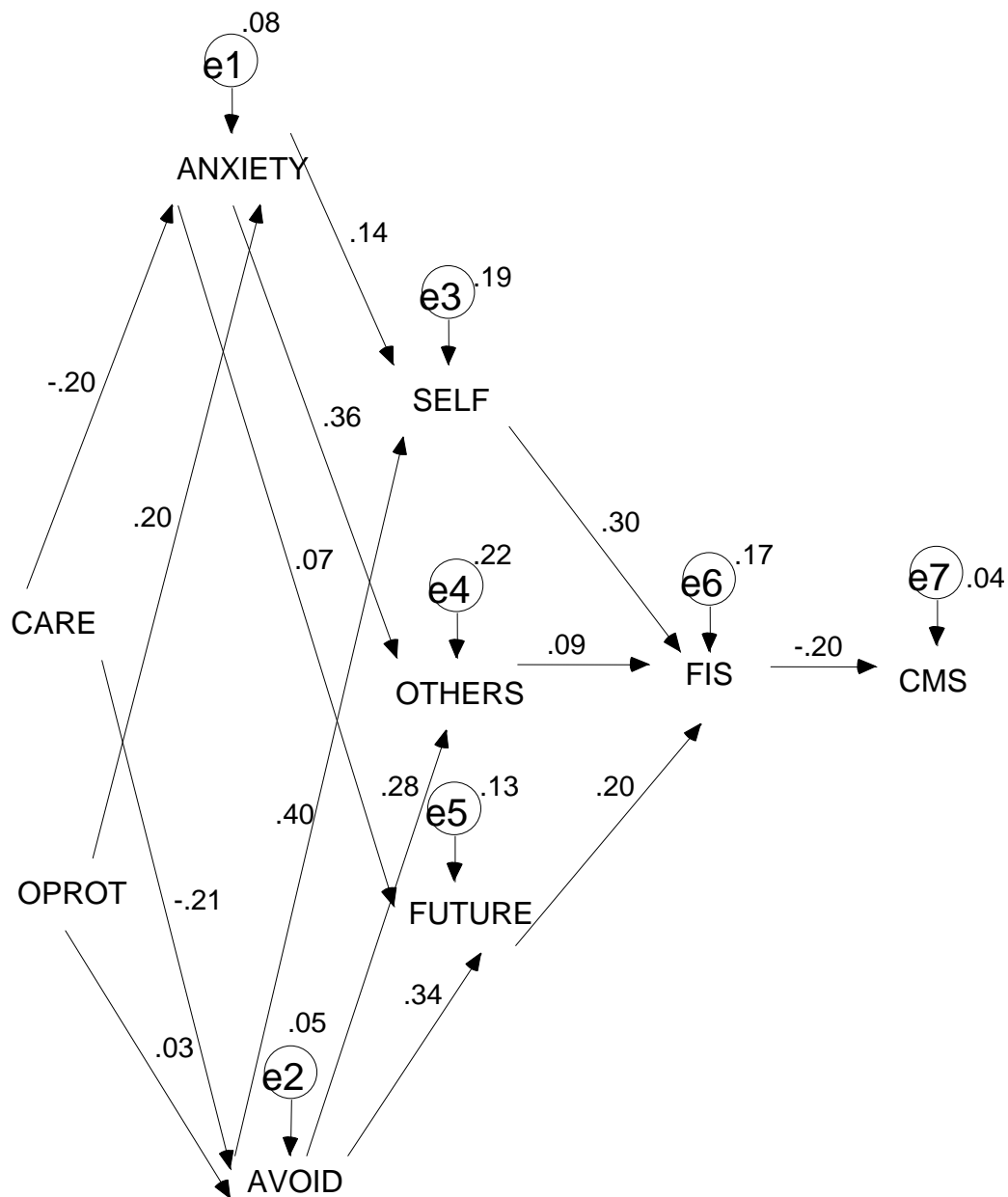


Figure 8. Path coefficients of Model 2 for child molesters showing maternal bonding predicting adult romantic attachment, cognitions about the self, others, and the future; fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

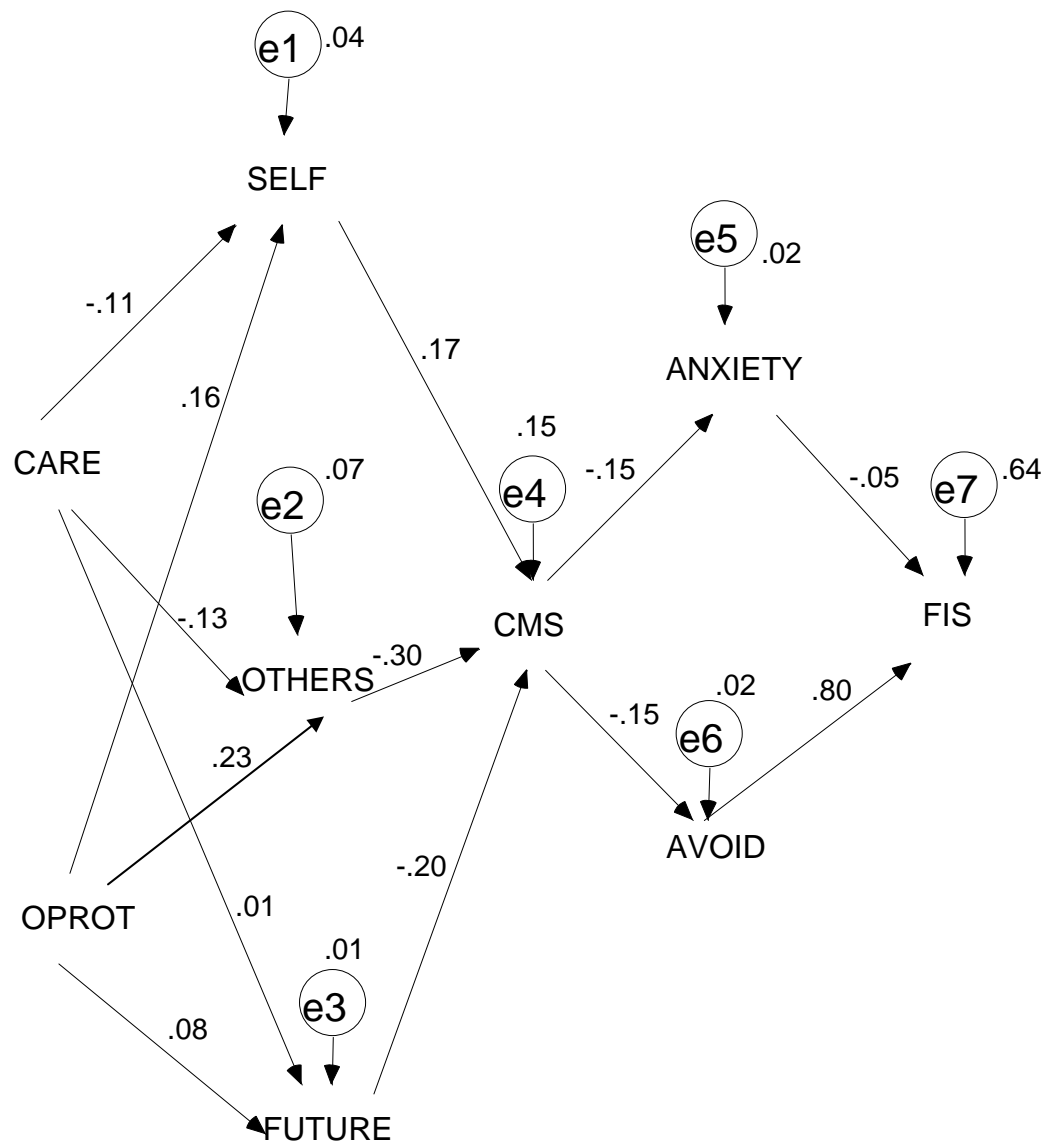


Figure 9. Path coefficients of Model 3 for child molesters showing maternal bonding predicting cognitions about the self, others, and the future; cognitive distortions regarding adult-child sex, adult romantic attachment, and fear of intimacy. Numbers are standardized  $\beta$  weights.

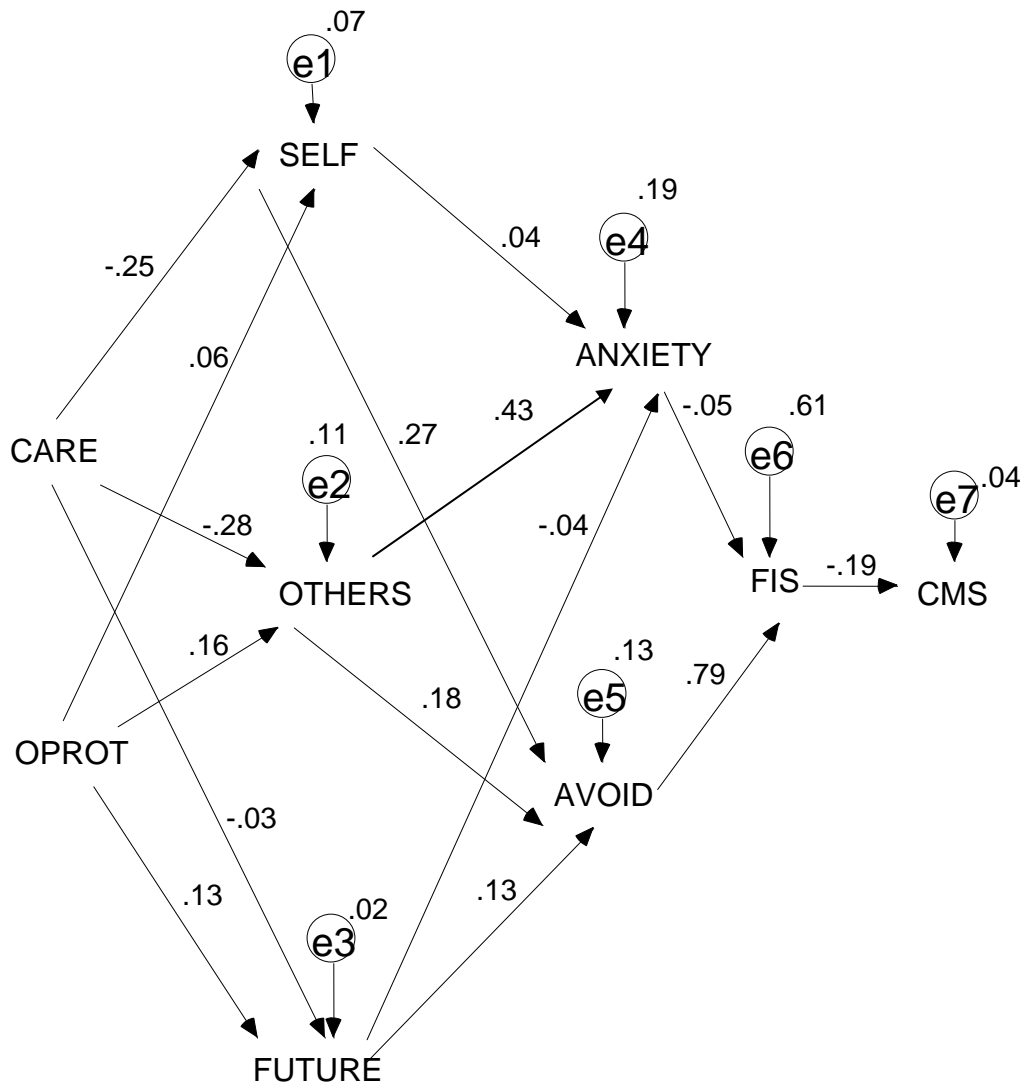


Figure 10. Path coefficients of Model 1 for child molesters showing paternal bonding predicting cognitions about the self, others, and the future; adult romantic attachment, fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

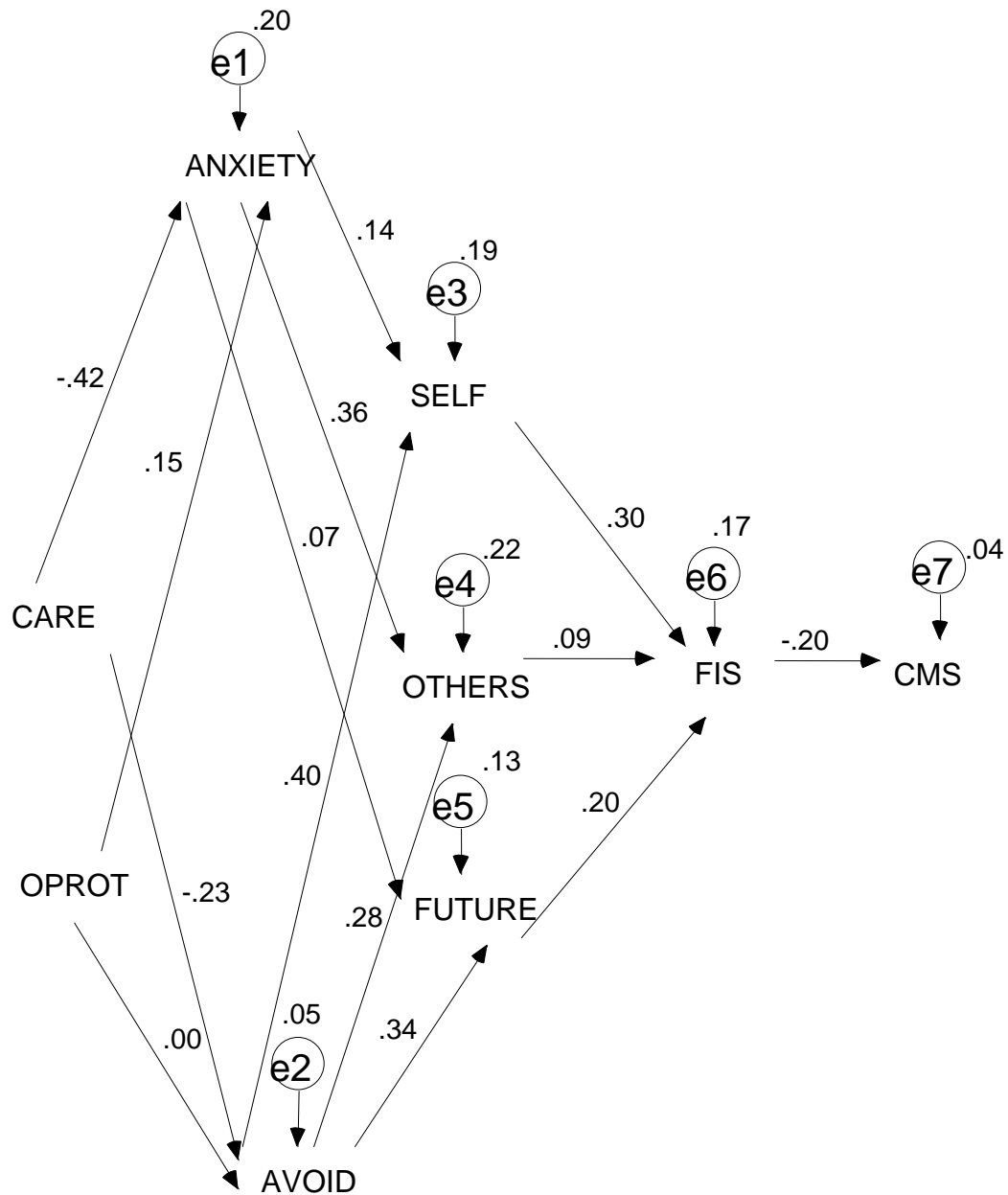


Figure 11. Path coefficients of Model 2 for child molesters showing paternal bonding predicting adult romantic attachment, cognitions about the self, others, and the future; fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

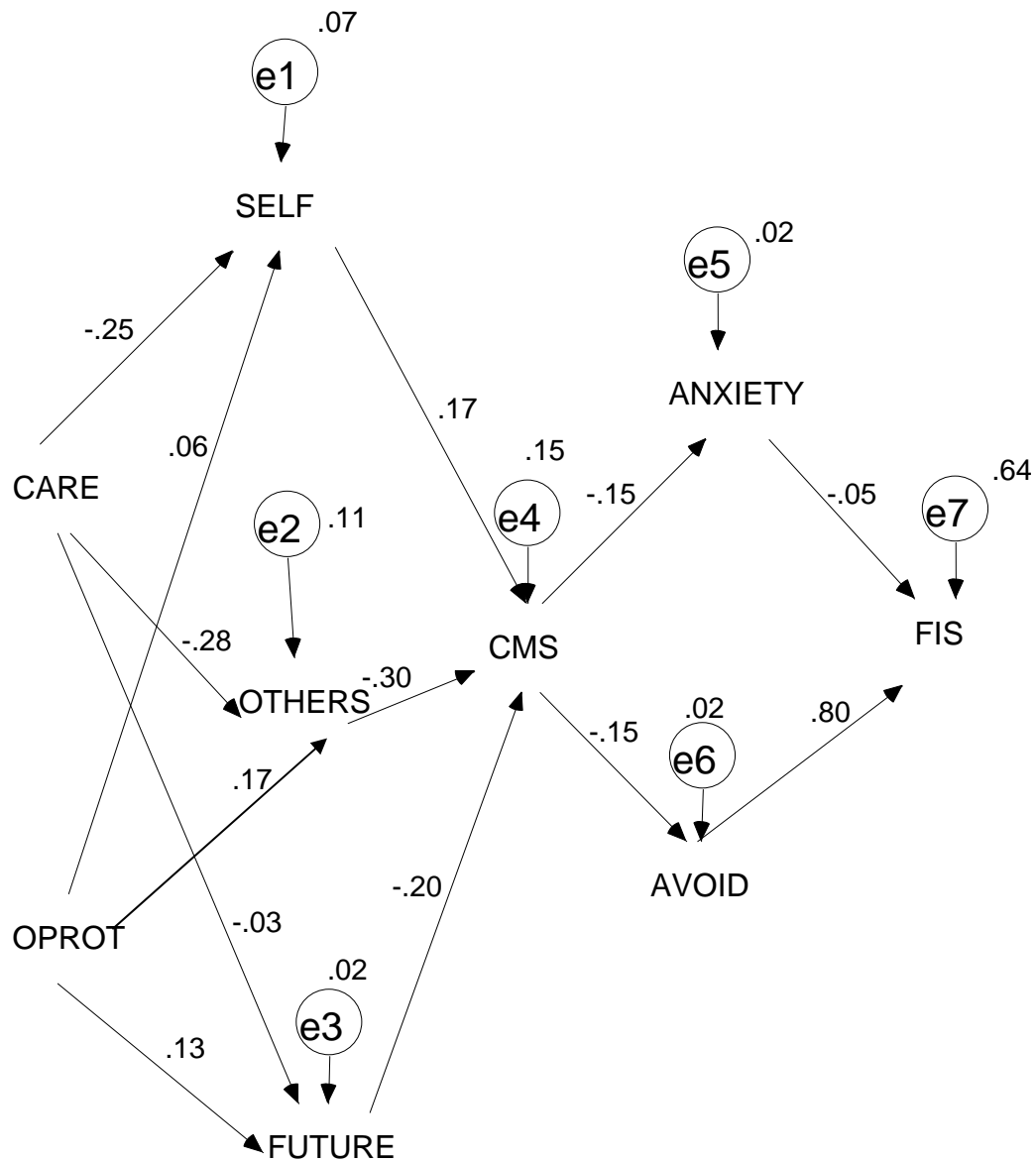


Figure 12. Path coefficients of Model 3 for child molesters showing paternal bonding predicting cognitions about the self, others, and the future; cognitive distortions regarding adult-child sex, adult romantic attachment, and fear of intimacy. Numbers are standardized  $\beta$  weights.

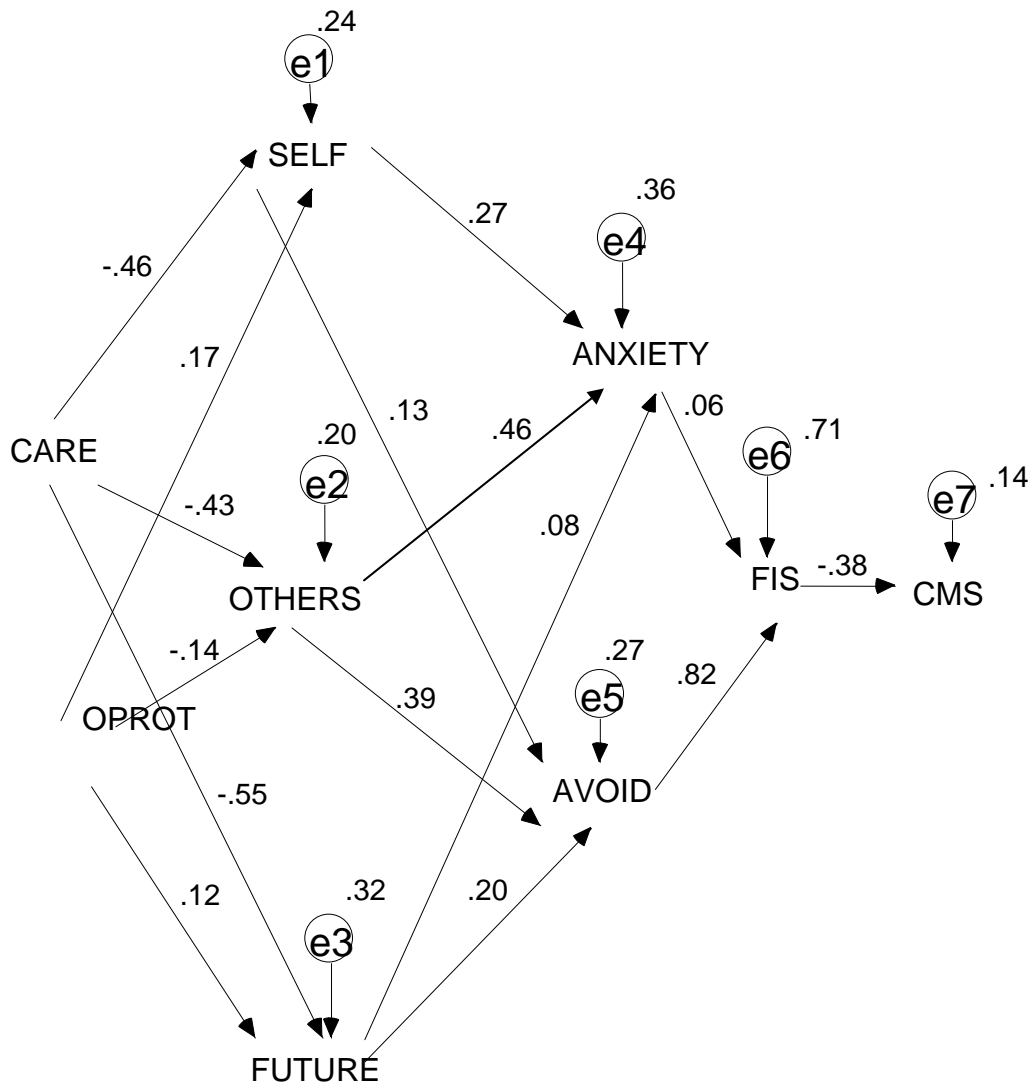


Figure 13. Path coefficients of Model 1 for non-offending controls showing maternal bonding predicting cognitions about the self, others, and the future; adult romantic attachment, fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.



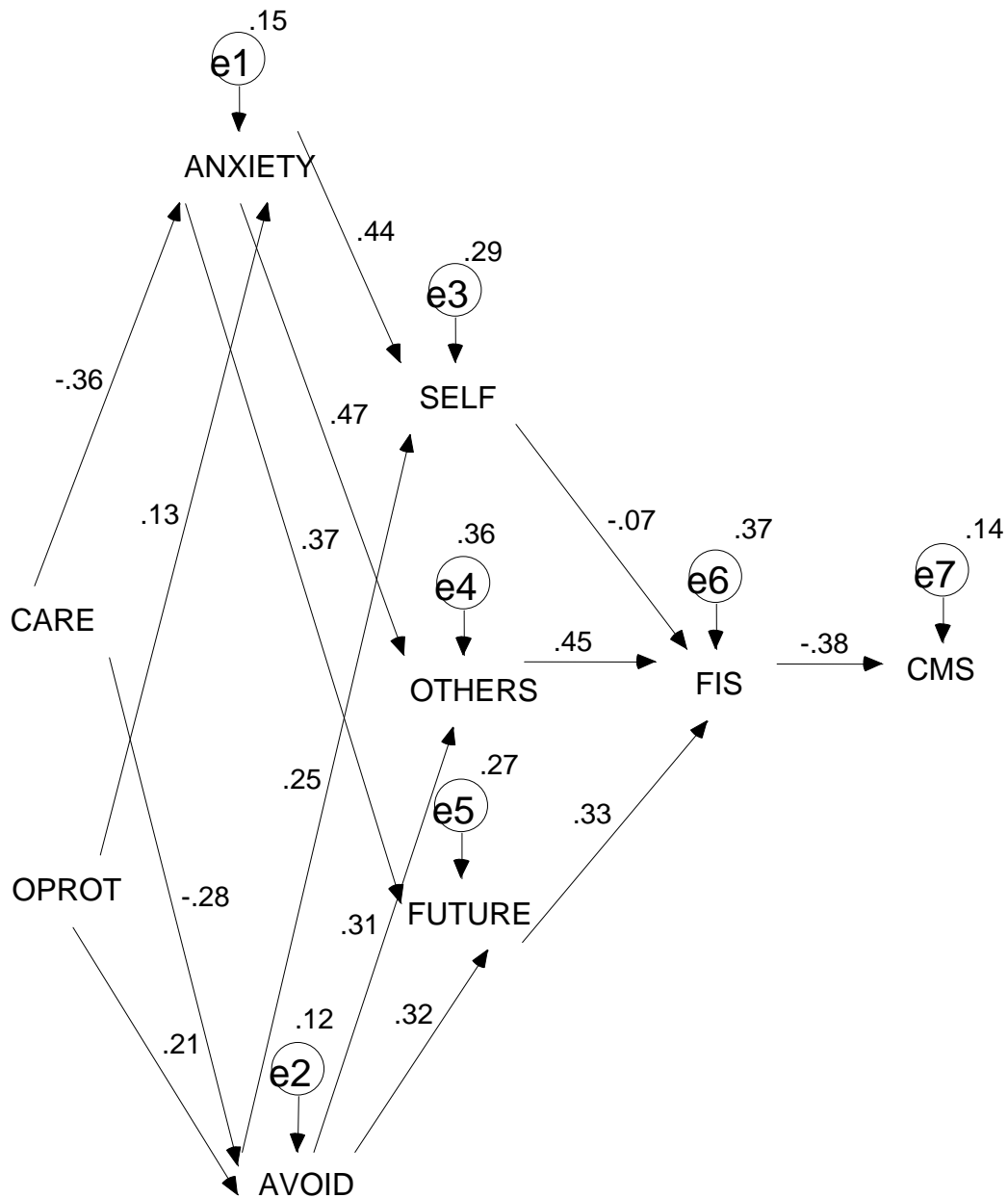


Figure 14. Path coefficients of Model 2 for non-offending controls showing maternal bonding predicting adult romantic attachment, cognitions about the self, others, and the future; fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

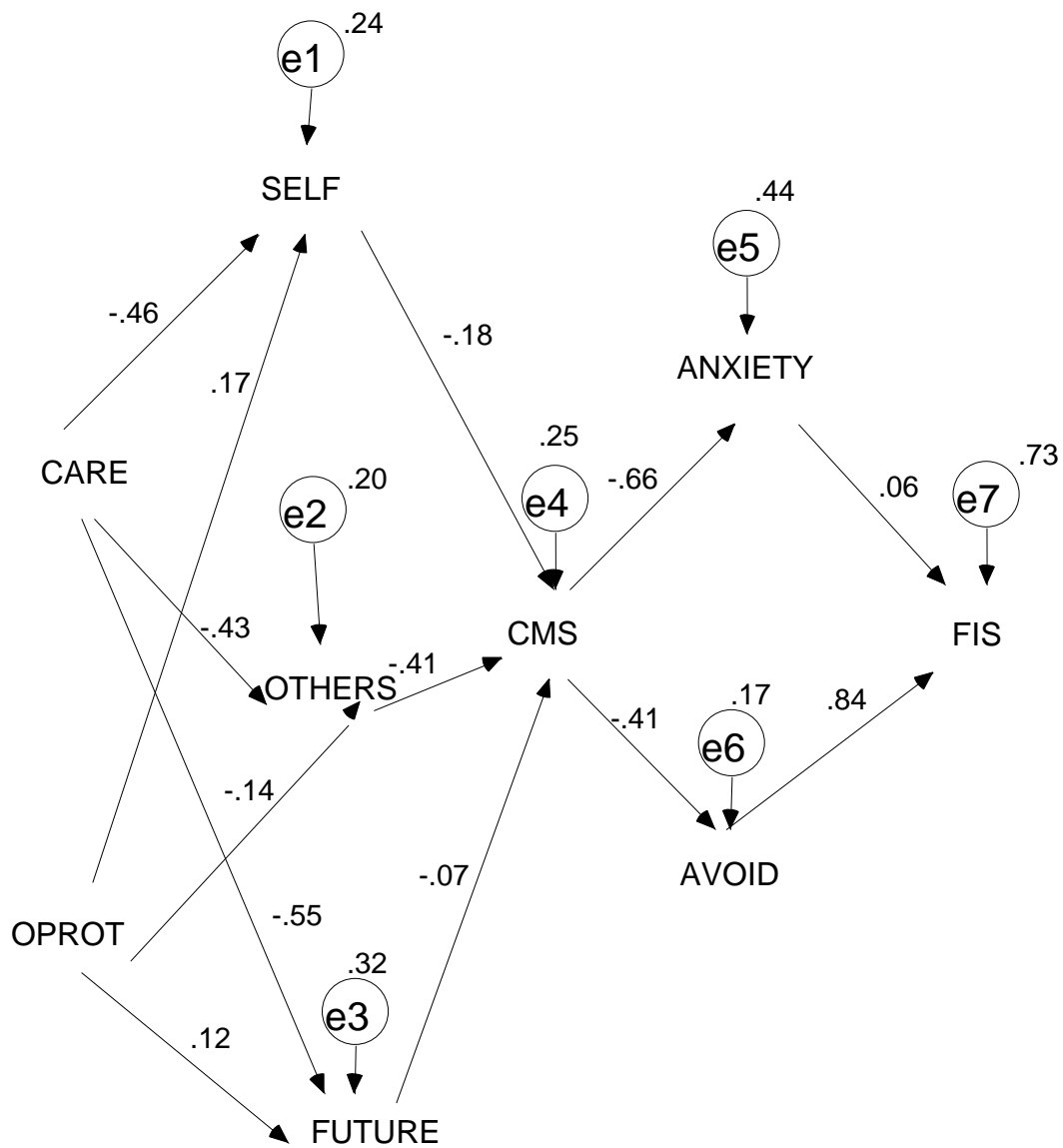


Figure 15. Path coefficients of Model 3 for non-offending controls showing maternal bonding predicting cognitions about the self, others, and the future; cognitive distortions regarding adult-child sex, adult romantic attachment, and fear of intimacy. Numbers are standardized  $\beta$  weights.

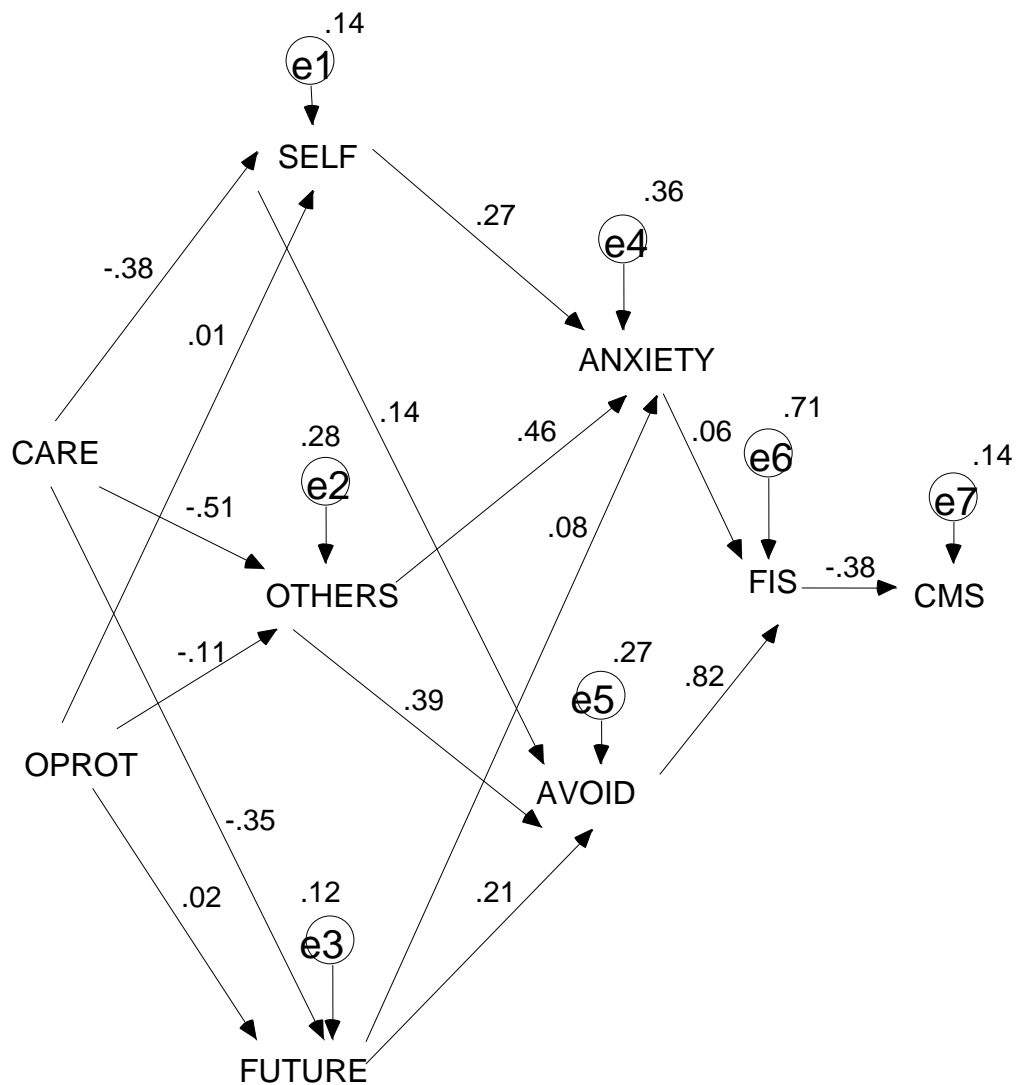


Figure 16. Path Coefficients of Model 1 for non-offending controls showing paternal bonding predicting cognitions about the self, others, and the future; adult romantic attachment, fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

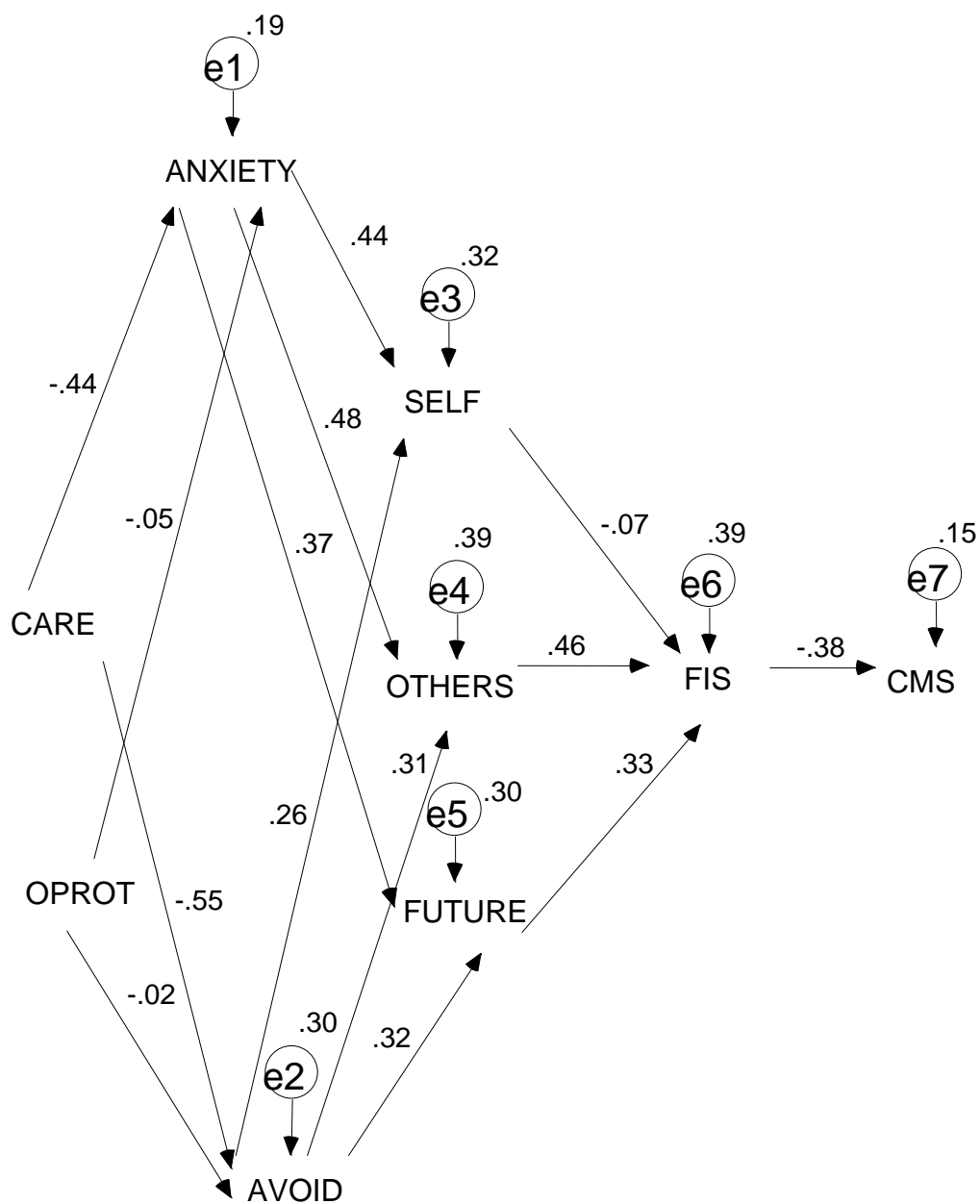


Figure 17. Path coefficients of Model 2 for non-offending controls showing paternal bonding predicting adult romantic attachment, cognitions about the self, others, and the future; fear of intimacy, and cognitive distortions regarding adult-child sex. Numbers are standardized  $\beta$  weights.

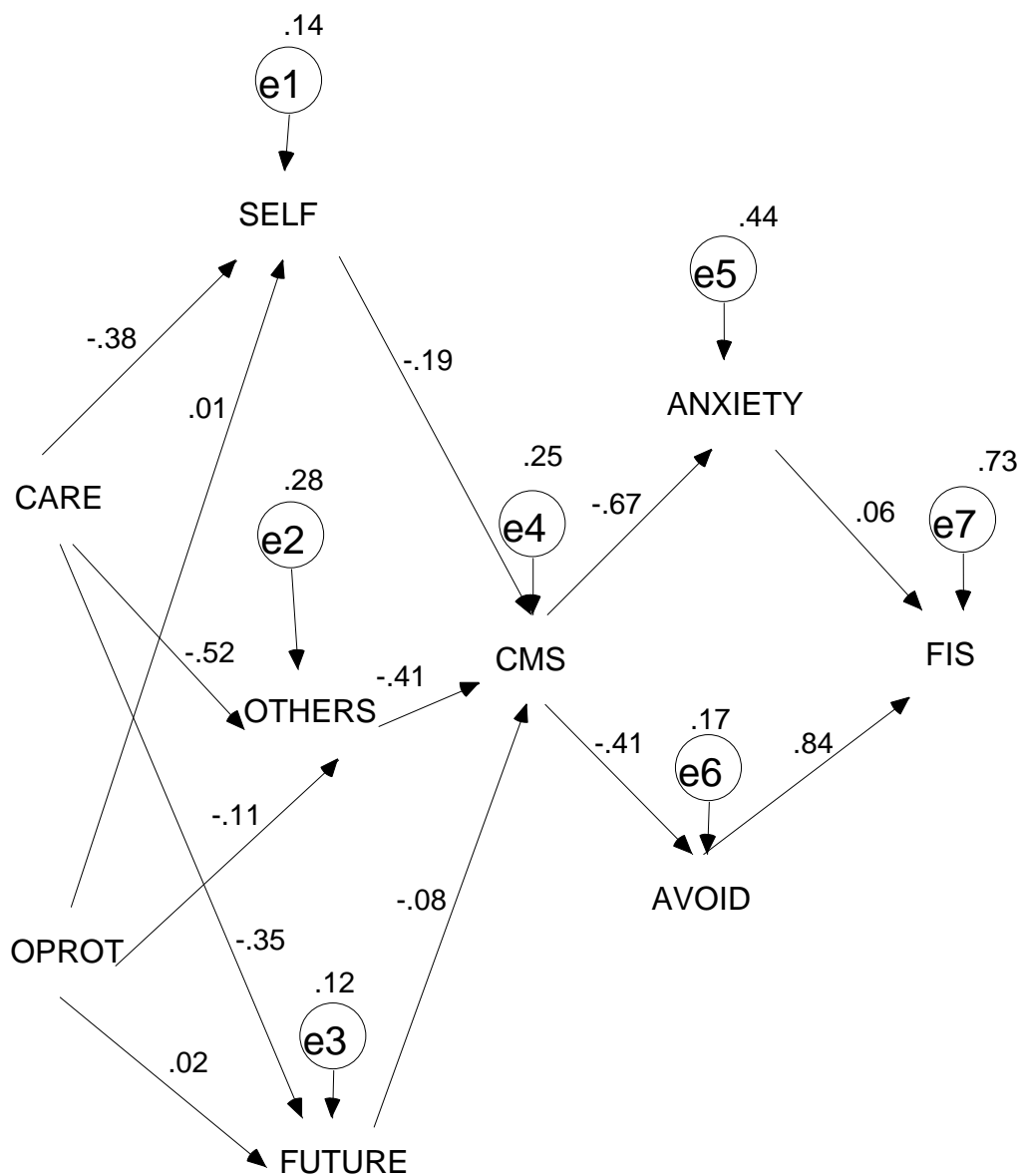


Figure 18. Path coefficients of Model 3 for non-offending controls showing paternal bonding predicting cognitions about the self, others, and the future; cognitive distortions regarding adult-child sex, adult romantic attachment, and fear of intimacy. Numbers are standardized  $\beta$  weights.

Table 1

*Demographic Information of Participants*

	Child Molesters ( <i>n</i> = 91)	Non-Offending Controls ( <i>n</i> = 90)	Total ( <i>N</i> =181)	$\chi^2/t$	<i>d</i>
Ethnicity				5.20	
European American	57 (62.6%)	67 (74.4%)	124 (68.5%)		
African American	8 (.08%)	9 (10.0%)	17 (9.4%)		
Hispanic/Mexican Am.	24 (26.4%)	12 (13.3%)	36 (19.9%)		
Other	1 (.01%)	2 (.02%)	3 (1.6%)		
Years					
Education				30.71**	
Less than HS	18 (19.8%)	4 (.04%)	22 (12.2%)		
High school	19 (20.8%)	8 (.08%)	27 (14.9%)		
Some college	23 (25.2%)	20 (22.2%)	43 (23.8%)		
2 yr/Tech Degree	15 (16.5%)	15 (16.6%)	30 (16.6%)		
Bachelor's	9 (9.9%)	22 (24.4%)	31 (17.1%)		
Graduate Degree	7 (7.6%)	21 (23.3%)	28 (15.5%)		
Marital Status				42.39**	
Married	31 (34.1%)	73 (81.1%)	104 (57.5%)		
Divorce/Sep	33 (36.2%)	6 (.07%)	39 (21.5%)		
Single	27 (29.7%)	11 (12.2%)	38 (21.0%)		
Age				-.628	.09
Mean	42.80	41.63	42.22		
<i>SD</i>	13.06	11.93	12.49		
Income				7.91**	1.19
Mean	\$25,379.16	\$55,314.61	\$40,516.97		
<i>SD</i>	\$19,279.96	\$29,691.16	\$29,176.31		

\*\* $p < .01$

Table 2

*Characteristics of Child Molesters*

	<i>n</i>	%
MONTHS RECEIVING SEX OFFENDER TREATMENT		
Less than 12 Months	23	(25.2%)
Between 13 and 27 Months	16	(17.6%)
Between 27 and 60 Months	18	(19.8%)
Over 60 Months	19	(20.9%)
Did not report	15	(16.5%)
CONVICTED SEXUAL OFFENSES		
Aggravated Sexual Assault	40	(43.9%)
Indecency with a Child	27	(29.7%)
Possessing Child Pornography	9	(9.9%)
Solicitation of a Minor	3	(3.3%)
Lewd Act with a Minor	2	(2.2%)
Endanger/Injury to a Child	2	(2.2%)
Did not report	8	(8.8%)
RELATIONSHIP TO VICTIMS		
Family Member	30	(33.0%)
Acquaintance	25	(27.5%)
Stranger	30	(33.0%)
Did not report	6	(6.5%)
CHILD MOLESTERS REPORTING MULTIPLE VICTIMS		
Two Victims	6	(6.5%)
Three Victims	2	(2.2%)
Four Victims	2	(2.2%)
Nine Victims	1	(1.1%)
Thirty Victims	1	(1.1%)
One Hundred Victims	1	(1.1%)

Table 3

*Means, Standard Deviations, and Statistical Results for PBI, ECR, FIS, CMS, CTQ, and CTI Subscales*

	Child Molesters <i>M (SD)</i>	Non-Offending Controls <i>M (SD)</i>		
			<i>F</i>	<i>d</i>
Parental Bonding				
Maternal Care	27.18 (8.07)	30.74 (6.05)	12.89**	.53
Maternal Overprotect	13.39 (7.00)	9.79 (5.63)	9.26**	.45
Paternal Care	20.06 (10.68)	24.26 (9.18)	5.90	.36
Paternal Overprotect	13.37 (8.75)	9.02 (5.78)	5.97	.36
Childhood Trauma				
Emotional abuse	9.81 (4.73)	7.37 (2.95)	16.87**	.62
Emotional neglect	9.88 (4.38)	7.13 (2.96)	23.66**	.72
Physical abuse	8.39 (3.96)	6.82 (2.04)	7.51**	.41
Physical. neglect	7.19 (2.96)	5.81 (1.63)	10.69**	.49
Sexual abuse	7.51 (4.75)	5.21 (1.17)	10.31**	.47
Denial	9.08 (3.33)	9.20 (2.82)	.037	.03
Negative Perceptions				
Self	23.82 (8.97)	16.15 (7.04)	25.71**	.75
World/Others	27.80 (9.75)	21.45 (7.41)	17.93**	.63
Future	29.17 (10.66)	24.15 (3.13)	8.31**	.43
Attachment Style				
Anxiety	55.88 (20.43)	39.83 (16.76)	30.72**	.83
Avoidance	48.73 (19.89)	37.98 (17.67)	12.05**	.52
FIS	77.87 (23.68)	67.82 (20.81)	6.30**	.37
CMS	85.62 (8.83)	100.67 (8.63)	112.50**	1.6

\* $p < .05$ , \*\* $p < .01$

*Note:* Lower scores on the CMS indicate more cognitive distortions. Lower scores on the CTI indicate negative perceptions of self, world/others, and the future.



Table 4

*Correlations among Subscales of PBI, CTI, ECR, FIS, and CMS for Whole Sample*

Measure	MomCare	DadCare	MomProt	DadProt	CTIself	CTIothers	CTIfuture	Avoidance	Anxiety	FIS	CMS
MomCare	(.43)	.407**	-.419**	-.242**	-.362**	-.316**	-.182*	-.321**	-.391**	-.342**	.330**
DadCare		(.59)	-.208**	-.453**	-.353**	-.421**	-.155*	-.388**	-.458**	-.393**	.232**
MomProt			(.73)	.463**	.324**	.242**	.184*	.244**	.333**	.201**	-.286**
DadProt				(.70)	.250**	.277**	.201*	.196*	.323**	.223**	-.266**
CTIself					(.70)	.643**	.627**	.495**	.488**	.472**	-.458**
CTIothers						(.58)	.521**	.490**	.573**	.481**	-.499**
CTIfuture							(.41)	.395**	.329**	.418**	-.389**
Avoidance								(.25)	.474**	.832**	-.368**
Anxiety									(.70)	.410**	-.526**
FIS										(.82)	-.361**

\*  $p < .05$ , \*\*  $p < .01$ . Note: Percentages indicate Cronbach's alphas.

Table 5

*Correlations among Subscales of PBI, CTI, ECR, FIS, and CMS for Child Molesters*

Measure	MomCare	DadCare	MomProt	DadProt	CTIself	CTIothers	CTIfuture	Avoidance	Anxiety	FIS	CMS
MomCare		.441**	-.331**	-.227	-.163	-.197	-.013	-.218	-.268	-.219	.076
DadCare			-.258*	-.423**	-.281*	-.345**	-.069	-.217	-.458**	-.259**	.017
MomProt				.474**	.197	.275*	.079	.100	.263*	.088	-.234*
DadProt					.163	.281*	.140	.087	.316**	.161	-.146
CTIself						.592**	.587**	.431**	.281**	.439**	-.110
CTIothers							.473**	.388**	.449**	.340**	-.293**
CTIfuture								.356**	.195	.391**	-.241*
Avoidance									.324**	.794**	-.146
Anxiety										.246*	-.148
FIS											-.209

\*  $p < .05$ , \*\*  $p < .01$

Table 6

*Correlations among Subscales of PBI, CTI, ECR, FIS, and CMS for Non-Offending Controls*

Measure	MomCare	DadCare	MomProt	DadProt	CTIself	CTIothers	CTIfuture	Avoidance	Anxiety	FIS	CMS
MomCare		.302**	-.473**	-.130	-.518**	-.373**	-.592**	-.370**	-.418**	-.438**	.432**
DadCare			-.068	-.446**	-.364**	-.465**	-.328**	-.531**	-.394**	-.504**	.298**
MomProt				.362**	.370**	.064	.370**	.333**	.300**	.260*	-.177
DadProt					.176	.117	.182	.228*	.156	.224*	-.125
CTIself						.594**	.762**	.486**	.564**	.448**	-.460**
CTIothers							.619**	.550**	.619**	.619**	-.531**
CTIfuture								.512**	.531**	.558**	-.443**
Avoidance									.556**	.860**	-.425**
Anxiety										.520**	-.682**
FIS											-.396**

\*  $p < .05$ , \*\*  $p < .01$

Table 7

*Chi-square Analyses for Parental Bonding and Adult Attachment*

	Child Molesters <i>n</i> (%)		Non-Offending Controls <i>n</i> (%)	$\chi^2$
MATERNAL PARENTING CLASSIFICATION				
4-way				11.04*
Optimal Bonding	32 (39.5%)	<	58 (64.4%)	
Affectionate Constraint	18 (22.2%)	>	14 (15.6%)	
Affectionless Control	18 (22.2%)	>	10 (11.1%)	
Neglectful Parenting	13 (16.0%)	>	8 (8.9%)	
PATERNAL PARENTING CLASSIFICATION				
4-way				7.95*
Optimal Bonding	24 (31.2%)	<	37 (43.0%)	
Affectionate Constraint	4 (5.2%)	=	4 (4.7%)	
Affectionless Control	27 (35.1%)	>	14 (16.3%)	
Neglectful Parenting	22 (28.6%)	<	31 (36.0%)	
ADULT ATTACHMENT CLASSIFICATION				
4-way				17.45**
Secure	44 (48.9%)	<	66 (73.3%)	
Fearful	14 (15.6%)	>	7 (7.8%)	
Preoccupied	18 (20.0%)	>	3 (3.3%)	
Dismissing	14 (15.6%)	=	14 (15.6%)	

\*  $p > .05$  level, \*\* $p < .01$  (two tailed).

*Note:* Percentages indicate proportion of experimental or control group in each category.

Table 8

Results of Logistic Regression Model for Continuous Variables (N = 166)

Step/Predictors	B (SE)	Wald's $\chi^2$	Exp(B) <sub>a</sub>	df	Block $\chi^2$	Model $\chi^2$	Nagelkerke $R^2$
<b>MODEL 1</b>							
<i>BLOCK ONE</i>				2	64.05***	64.05***	.44
1. Education	-.98 (.42)	5.25*	.33	1			
Income	.00 (.00)	32.11**	1.0	1			
Constant	-.201 (.16)	1.60	.82	1			
<i>BLOCK TWO</i>				9	69.65***	133.70***	.76
1. Education	-1.29 (.65)	3.88*	.27	1			
Income	.01 (.68)	16.05***	1.0	1			
2. Maternal Care	-.03 (.04)	.68	.97	1			
Maternal Overprotect	.01 (.05)	.06	1.01	1			
View of Self	.05 (.06)	.93	1.05	1			
View of Others	-.06 (.05)	1.24	.95	1			
View of Future	.02 (.10)	.05	1.02	1			
ECR Anxiety	.35 (.34)	1.10	1.42	1			
ECR Avoidance	.12 (.53)	.05	1.12	1			
Fear of Intimacy	-.02 (.02)	.82	.98	1			
Cognitive Distortion	-.19 (.04)	24.68***	.83	1			
Constant	21.42 (4.77)	20.15	13.85	1			
<b>MODEL 2</b>							
<i>PARSIMONIOUS MODEL</i>				9	--	101.16***	.62
Maternal Care	-.01 (.03)	.11	.75	1			
Maternal Overprotect	-.001 (.04)	.01	.97	1			
View of Self	.78 (.05)	2.52	1.08	1			
View of Others	-.09 (.04)	4.66*	.92	1			
View of Future	.14 (.08)	3.67	1.16	1			
ECR Anxiety	.20 (.27)	.55	1.22	1			
ECR Avoidance	-.29 (.43)	.45	.75	1			
Fear of Intimacy	-.02 (.02)	.67	.99	1			
Cognitive Distortions	-.21 (.03)	36.29***	.81	1			
Constant	17.54 (3.79)	21.49	84.30	1			
<b>Model Comparison</b>							
	-2LL <sub>b</sub>			df	Hosmer & Lemeshow <sub>c</sub>		
					$\chi^2$	<i>p</i>	
Model 1	86.51			11	33.16	.001	
Model 2	124.99			9	24.42	.002	
$\chi^2$ Difference Test	38.48 > critical value			2			

Note: (a) Exp(B) = Odds Ratio; (b) LL = Log likelihood, -2LL = deviation  $\chi^2$ ; (c) Hosmer & Lemeshow  $\chi^2$  is a goodness of fit test, which if significant indicates that the model is *not* a good fit to the data.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 9

Results of Logistic Regression Model for Categorical Variables (N = 166)

Step/Predictors	B (SE)	Wald's $\chi^2$	Exp(B) <sub>a</sub>	df	Block $\chi^2$	Model $\chi^2$	Nagelkerke $R^2$
<b>MODEL 1</b>							
<i>BLOCK ONE</i>				2	60.08***	60.08***	.44
1. Education	-1.02 (.43)	6.72**	.33	1			
Income	.00 (.00)	28.93***	1.0	1			
Constant	-.238 (.16)	2.12	.78	1			
<i>BLOCK TWO</i>				7	28.70***	88.80***	.60
1. Education	-1.52 (.53)	8.30**	.22	1			
Income	.00 (.00)	25.39***	1.0	1			
2. Mom Optimal Bond	-2.19 (.64)	11.71**	.11	1			
Dad Optimal Bond	.38 (.58)	4.38	1.46	1			
Mom Affectionless Control	-.706 (.75)	.89	.49	1			
Dad Affectionless Control	-1.72 (1.12)	2.35	.18	1			
Secure Attachment	.48 (.68)	.50	1.61	1			
Fearful Attachment	.32 (.96)	.11	1.37	1			
Preoccupied Attachment	2.57 (1.07)	5.71**	13.00	1			
Constant	3.81 (.94)	16.36	45.19	1			
<b>MODEL 2</b>							
<i>PARSIMONIOUS MODEL</i>				7	--	27.06***	.22
Mom Optimal Bond	-1.29 (.45)	8.41**	.28	1			
Dad Optimal Bond	.20 (.44)	.22	1.22	1			
Mom Affectionless Control	-.11 (.52)	.00	.99	1			
Dad Affectionless Control	.29 (.81)	.13	1.34	1			
Secure Attachment	.253 (.54)	.22	1.29				
Fearful Attachment	1.20 (.72)	2.75	3.37				
Preoccupied Attachment	1.95 (.81)	5.78**	7.02				
Constant	-.113 (.52)	.047	.894				
Model Comparison	-2LL <sub>b</sub>			df	Hosmer & Lemeshow <sub>c</sub>		
					$\chi^2$	<i>p</i>	
Model 1	119.78			9	9.25	.32	
Model 2	187.56			7	3.16	.87	
$\chi^2$ Difference Test	67.78 > critical value			2			

Note: (a) Exp(B) = Odds Ratio; (b) LL = Log likelihood, -2LL = deviation  $\chi^2$ ; (c) Hosmer & Lemeshow  $\chi^2$  is a goodness of fit test, which if significant indicates that the model is *not* a good fit to the data.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

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